
QMS® 2425/ 2425 TURBO Print System Options

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1

Introduction

In This Chapter . . .

- “About This Manual” on page 1-2
- “Typographic Conventions” on page 1-4

Introduction

This manual provides detailed instructions for installing your QMS 2425/2425 *TURBO* Print System options. Use this guide in conjunction with your other printer documentation.

About This Manual

- » **Note:** *Some of the procedures throughout this documentation refer to applications, utilities, and print drivers being located on disks, but recently QMS has begun placing these on CD-ROM.*

If you need alternate media, please contact your QMS vendor for media availability and purchase information. You can also download some of these files via ftp from our World Wide Web Server at <http://www.qms.com>, our Bulletin Board at (334) 633-3632, or CompuServe at go qmsprint. See appendix A, "QMS Customer Support," for sales and support locations and telephone numbers.

This manual contains printer configuration and reference information. It is divided into the following sections:

1	Introduction	Provides an overview of the manual.
2	Memory and System Software	Describes how to install the printer memory (SIMMs), and update the system software.
3	Interfaces and Daughterboards	Describes how to install optional interfaces (CrownNet Token-Ring, CrownNet Ethernet, LocalTalk, and DECnet-TCP/IP), the Multi-Res daughterboard, and the option controller board.

4	Software	Describes how to download fonts and emulations, and how to install the external hard disk and Kanji SIMM.
5	Storage and Scanning Devices	Describes how to install and configure hard disks and the CrownCopy scanner. It also describes how to set up and maintain the scanner, and how to install and configure CrownCopy software.
6	Security Key, Accessories, and Warning Buzzer	Describes how to install the pedestal stand, the CrownCopy stand, the security key, the off-line warning buzzer, and the CrownCopy stand.
7	Media Input	Describes how to install the high-capacity paper deck and the envelope feeder.
8	Document Finishing Options	Describes how to install the duplexer, Stackler, and Model 3100 Stacker. It also explains how to replace a staple cartridge.
9	Maintenance Kit	Describes how to install the maintenance kit—fixing assembly, transfer charging roller and gear assembly, and feed and retard rollers.
A	QMS Customer Support	Provides world-wide product sales and support telephone numbers and describes how to communicate with QMS through the QMS Bulletin Board, CompuServe, the Internet, and Q-FAX.

Typographic Conventions

The following typographic conventions are used in this manual:

Mixed-Case Courier	Text you type, and messages and information displayed on the screen
<i>Mixed-Case Italic Courier</i>	Variable text you type; replace the italicized word(s) with information specific to your printer or computer
UPPERCASE COURIER	Information displayed in the printer message window
lowercase bold	PostScript operators and DOS commands
<i>lowercase italic</i>	Variable information in text
UPPERCASE	File and utility names
↵	Press the Enter key (PC) or Return key (Macintosh)
^	Press and hold down the Ctrl key (PC)

- » **Note:** *Notes contain tips, extra information, or important information that deserves emphasis or reiteration.*

- ▲ **Caution:** *Cautions present information that you need to know to avoid equipment damage, process failure, or extreme annoyance.*

- 💡 **WARNING!** *Warnings indicate the possibility of personal injury if a specific procedure is not performed exactly as described in the manual.*

ACHTUNG! *Bitte halten Sie sich exakt an die im Handbuch beschriebene Vorgehensweise, da sonst Verletzungsgefahr bestehen könnte.*



2

Memory and System Software

In This Chapter . . .

- “Single In-Line Memory Modules” on page 2-7
- “Updating System Software” on page 2-12

Introduction

This chapter provides details on how to install RAM and how to update system software. It also describes how to remove and reinstall the controller board.

Removing the Controller Board

The controller board must be removed to install the following options: a SIMM upgrade; an internal hard disk; the Kanji fonts; an optional network interface, an optional LocalTalk or serial interface; a Multi-Res daughterboard; and the option controller board.



WARNING! *The options which require access to the controller board should be performed only by a qualified QMS service technician.*

ACHTUNG! *Arbeiten am QMS Controller sollten nur von qualifiziertem Servicepersonal durchgeführt werden.*

Procedure

Use the following procedure to remove the controller board.

-
- ▲ **Caution:** *It's very important to protect the printer controller board from electrostatic damage while performing this task.*

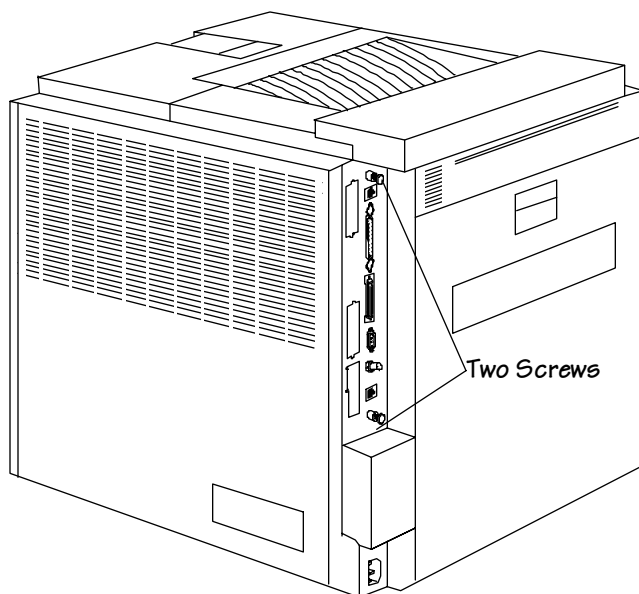
***If an anti-static wrist strap is provided** in your printer option kit, attach one end of it to your wrist and the other end to any convenient electrical ground (for example, the bare metal chassis of equipment, as on the back of a computer, that is plugged in but **turned off**). Never attach the wrist strap to any piece of equipment with an electrical current present. Turn off all power switches first. Plastic, rubber, wood, painted metal surfaces, and telephones are not acceptable grounding points. The printer isn't an acceptable grounding point either because it must be unplugged before you perform this task.*

***If you don't have an anti-static wrist strap**, discharge your body's static electric charge by touching a grounded surface before you handle any printer boards or components and before removing the controller board cover. Also avoid walking around after grounding yourself.*

- 1 **Turn off the printer, and then disconnect the power cord and all interface cables (parallel, Ethernet, and optional interfaces, and the option controller, if installed) from the printer.**

Removing the Controller Board

- 2 Loosen the two screws, one on each end of the metal mounting bracket cover, on the rear of the printer.



- 3 Remove the controller board.

Using both hands, grab the two screws (on the metal mounting bracket cover), slide the controller board out of the printer, and set it aside on a flat surface.

- 4 Refer to the appropriate chapter in this manual for instructions on installing your option.

Reinstalling the Controller Board

Reinstall the controller board after reinstalling any of the following options: a SIMM upgrade, an optional internal hard disk, the Kanji option, an optional network, an optional LocalTalk interface, an optional serial interface, a Multi-Res daughterboard, and the option controller.

⚡ **WARNING!** *The options which require access to the controller board should be performed only by a qualified QMS service technician.*

ACHTUNG! *Arbeiten am QMS Controller sollten nur von qualifiziertem Servicepersonal durchgeführt werden.*

Procedure

Use the following procedure to reinstall the controller board.

▲ **Caution:** *It's very important to protect the printer controller board from electrostatic damage while performing this task.*

If an anti-static wrist strap is provided in your printer option kit, attach one end of it to your wrist and the other end to any convenient electrical ground (for example, the bare metal chassis of equipment, as on the back of a computer, that is plugged in but **turned off**). Never attach the wrist strap to any piece of equipment with an electrical current present. Turn off all power switches first. Plastic, rubber, wood, painted metal surfaces, and telephones are not acceptable grounding points. The printer isn't an acceptable grounding point either because it must be unplugged before you perform this task.

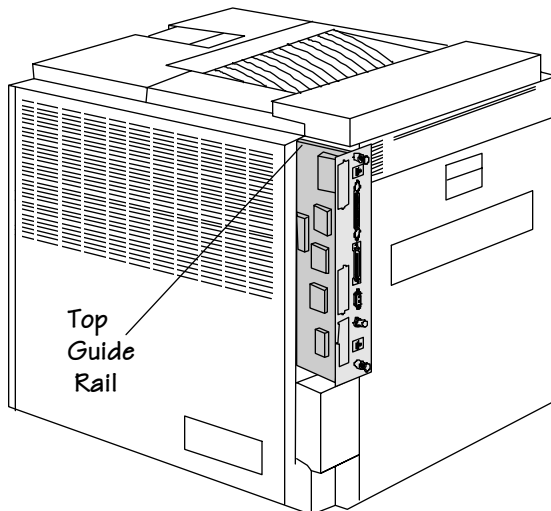
If you don't have an anti-static wrist strap, discharge your body's static electric charge by touching a grounded surface before you handle any printer boards or components and before removing the controller board cover. Also avoid walking around after grounding yourself.

Reinstalling the Controller Board

1 Replace the controller board in the printer.

Lift the controller board and position it on the guide rails inside the printer.

- » **Note:** *Align the controller board with the top guide rails before sliding it in the printer.*



2 Slide the controller board in until it is firmly seated in the printer.

3 Tighten the two screws you loosened earlier.

Push in and then tighten each screw.

4 Reconnect all interface cables and the power cord, and then turn on the printer.

Single In-Line Memory Modules

Single in-line memory modules (or SIMMs) are compact circuit boards with surface-mount memory chips. The QMS 2425/2425 *TURBO* Print System base model comes standard with one 8 MB SIMM, for a total of 8 MB of RAM; the 2425 EX comes with one 16 MB and one 8 MB SIMM, for a total of 24 MB of RAM; and the 2425 *TURBO* EX comes with two 16 MB SIMMS, for a total of 32 MB of RAM. However, you can add SIMMS up to a total of 128 MB of RAM.

Additional printer memory allows you to download more fonts and increase the printer's buffer (area where data sent from the computer is stored while it's waiting to be printed).

Installing a SIMM

-
- ▲ **Caution:** *This hardware change automatically restores defaults. If your memory settings are specific for your environment, print an advanced status page before making this hardware change, so you can recover these memory settings.*

It's very important to protect the printer controller board from electrostatic damage while performing this SIMM installation. Please review the anti-static caution in "Removing the Controller Board" on page 2-2.

Procedure

-
- ▲ **Caution:** *If your printer has a hard disk, you must remove it before installing a SIMM in DRAM3. See chapter 5, "Storage and Scanning Devices," the "Removing an Internal IDE Hard Disk" section, for details.*
-

Single In-Line Memory Modules

1 Access the printer controller board.

Use the instructions in the “Removing the Controller Board” section earlier in this chapter.



WARNING! Turn off the printer and unplug the power cord before removing the printer's controller board.

ACHTUNG! Schalten Sie unbedingt den Drucker aus und ziehen Sie den Netzstecker bevor Sie den Controller aus dem Drucker nehmen.

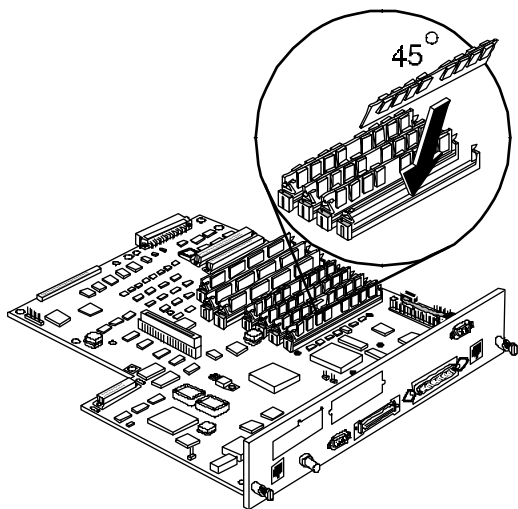
2 Position the controller board on a flat surface so the controller board lies flat and the bracket is facing you.

3 Remove the SIMM from the anti-static bag.

4 Insert the SIMM into the SIMM connector.

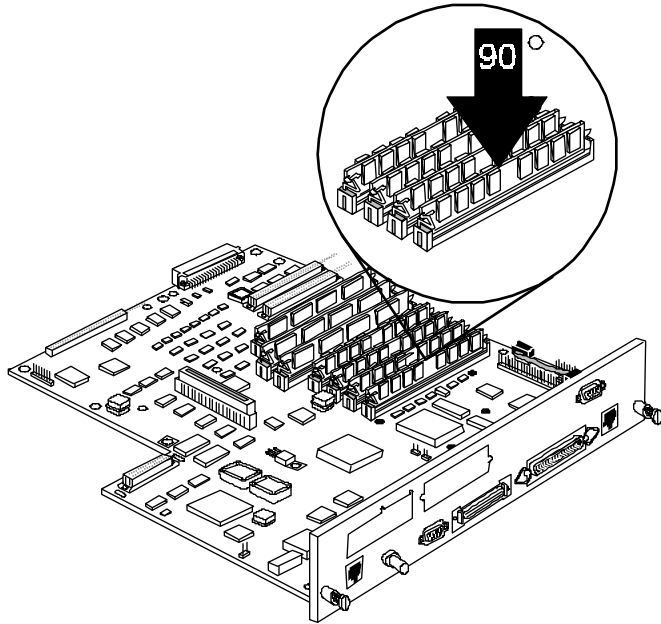
Hold the SIMM at a 45° angle to the controller board, with the notch on the right side and the bottom edge is in the connector.

» **Note:** Insert a SIMM in either SIMM connector as long as DRAM0, and the SIMM connector before the one you're installing, is occupied.



- 5 Tilt the SIMM up to a 90° angle until you feel it snap into place behind the clips on either side of the connector.**

When seated, the SIMM stands upright, firmly in place. If you cannot snap the SIMM into place, do not force it. Reposition it, making sure that the bottom of the SIMM is seated completely in the connector.



- 6 Repeat steps 3-5 for each additional SIMM being installed.**
- 7 Reinstall the controller board in the printer.**

Use the instructions in the “Reinstalling Controller Board” section, earlier in this chapter.

Removing a SIMM

If all of the SIMM connectors are filled and you want to install more memory (for example, if you want to replace an 8 MB SIMM with a 16 MB SIMM), one SIMM must be removed before a larger SIMM can be installed. Then refer to the previous section, "Installing a SIMM," for installation instructions. You can insert a SIMM in either SIMM connector as long as DRAM0, and the SIMM connector before the one you're installing, are occupied. Also, you must make sure that the SIMM in the DRAM0 slot is at least 8 MB on flash-based systems and at least 16 MB on hard-disk-based systems.

-
- ▲ **Caution:** *This hardware change automatically restores defaults. If your memory settings are specific for your environment, print an advanced status page before making this hardware change, so you can recover these memory settings.*

It's very important to protect the printer controller board from electrostatic damage while performing this SIMM installation. Please review the anti-static caution in the "Removing the Controller Board" section of this chapter.

Procedure

-
- ▲ **Caution:** *If your printer has a hard disk, you must remove it before you can remove the last SIMM (DRAM3). See chapter 5 of this manual, the "Removing an Internal IDE Hard Disk" section, for details.*
-

1 Access the printer controller board.

Use the instructions in "Removing the Controller Board" on page 2-2.



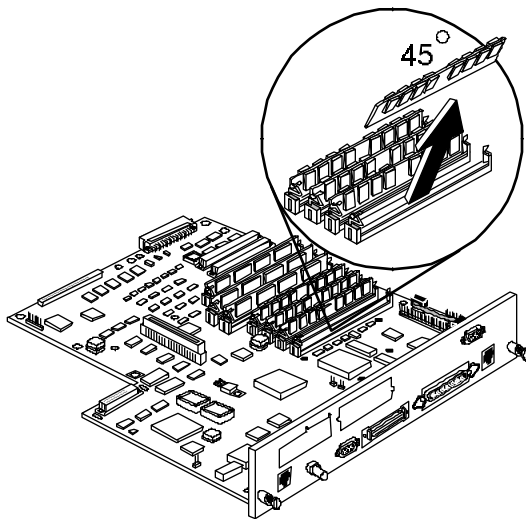
WARNING! *Turn off the printer and unplug the power cord before taking the cover off the printer.*

ACHTUNG! *Bitte schalten Sie den Drucker aus und ziehen Sie den Netzstecker heraus bevor Sie die Druckerabdeckung öffnen.*

Single In-Line Memory Modules

- 2 Position the controller board on a flat surface so that the controller board lies flat and the bracket is facing you.
- 3 Pull the latches on each side of the SIMM connector outward using both thumbs.
- 4 Remove the SIMM.

Tilt the SIMM backwards to a 45° angle away from the SIMM connector, and then lift it out.



- 5 If you want to install a SIMM, refer to “Installing a SIMM” on page 2-7; otherwise, continue with step 6.
- 6 Reinstall the controller board.

Use the instructions in “Reinstalling the Controller Board” on page 2-5.

Updating System Software

The system software in your QMS 2425/2425 *TURBO* Print System is stored on either 8 MB of flash ROM (read-only memory that can be erased and rewritten to “in a flash”) or on the internal hard disk. This allows you to update the system software without opening up the printer and installing new PROMs.

- ▲ **Caution:** *To update system software on a hard-disk-based printer, the printer **must** have at least a 16 MB SIMM installed in the first SIMM slot (DRAMO).*

Updated system software allows you to take advantage of future enhancements to the printer.

- » **Note:** *The software loadable system mentioned in this section does not modify the code used by QMS CrownNet interface boards. To update the code used by the QMS CrownNet interface boards, see the QMS CrownNet System Administrator's Guide.*

Use the Administration/Miscellaneous/New System Image menu to update the system software.

Menu	Administration/Miscellaneous/New System Image
Choices	Yes—Download new system code No—Don't download new system code
Default	No

Requirements

The following table describes the minimum requirements needed to download system software to your QMS 2425/2425 *TURBO* Print System.

- » **Note:** *The serial interface is an option which must be purchased through your QMS vendor. See appendix A, “QMS Customer Support,” for a list of locations and telephone numbers.*

Downloading via	Macintosh	Parallel	Serial
Free hard disk space needed on host computer	Minimum 4.5 MB	Minimum 4.5 MB	Minimum 4.5 MB
Notes	Requires connection from Macintosh serial port to serial port of printer. Cable must be wired as null modem or null modem adaptor attached.	Recommended method for downloading from an IBM or compatible PC. Fastest download method. No additional cables or changes of port settings required.	For use when the parallel method is unavailable. Requires null modem cable (see Appendix B, "Technical Specifications," in the Reference manual for cable information). Also requires software to set computer's serial port to 38400 baud (software available from the QMS Bulletin Board).

Procedure—Macintosh Users

About the SystemLoader Application

The SystemLoader application is used to download printer system software from a Macintosh to the printer. It must be decompressed from two Macintosh disks onto your Macintosh's hard disk before it can be used.

Decompressing the SystemLoader Application

The SystemLoader application comes on four disks. Before you can update the printer's system software, you must decompress the files on the disks. Use the following procedure:

- 1 Create a new folder on the Macintosh.**
- 2 Copy the contents of both disks to the new folder.**
- 3 Double-click the SystemLoader.1 file icon.**

The UnStuffIt application starts up, decompresses the SYSTEMLOADER.1, SYSTEMLOADER.2, SYSTEMLOADER.3, and SYSTEMLOADER.4 files, and joins them to create the SystemLoader application.

Downloading the System Software

After you have decompressed the SystemLoader application, as described in the previous section, use the following procedure to update the system software in flash memory.

- 1 Connect the Macintosh to the printer's serial port.**

You can use either the printer or modem port on the Macintosh. However, the modem port provides the fastest download. Refer to Appendix B, "Technical Specifications," in the *Reference* for a pin-out description of the cable needed.

- 2 Turn on the printer, wait for IDLE to appear in the message window, and then print an advanced status page.**

This procedure should not change the current configuration settings. However, the advanced status page provides a record of all current configuration settings, so you can verify that they are the same or recover your settings after the system software has been updated.

- 3 Access the Administration/Miscellaneous/New System Image menu.**
- 4 Select Yes in the New System Image menu.**

The printer automatically reboots and waits for the new system software (image) to be sent from your Macintosh.

5 Send the new image to the printer.

- a At the Macintosh, double-click the SystemLoader icon.
- b In the dialog box that appears, make sure the correct download port is selected, and then choose the Send button to start the download.

The downloading process takes about 30 minutes. After the updated system software has been written to flash ROM or the system disk, the message **Download Complete!** appears on the Macintosh screen, and the printer reboots with the new system code.

» **Note:** *The new system image will not erase the old image until the printer verifies that the new image is valid.*

6 Print another advanced status page, and verify that the configuration settings are the same.

Procedure—PC Users—Parallel and Serial

Use the following procedure to update the system software whether downloading through the parallel or serial port.

Decompressing the System Software

Before the printer system software can be downloaded, it must be decompressed on your PC's hard disk.

- 1 Switch to an MSDOS prompt.**
- 1 Create a new directory on your PC.**
- 2 Change to this directory.**
- 3 Insert the printer system software disk in your PC's 3.5" disk drive.**
- 4 Type `x:pkunzip x:system.` where *x* is the name of the disk drive in which you inserted the system software disk.**

5 Follow the prompts.

They instruct you to insert the system software disks in the following order:

- a Last disk (system software disk 4)
- b Disk 1 (system software disk 1)
- c Disk 2 (system software disk 2)
- d Disk 3 (system software disk 3)
- e Disk 4 (system software 4)

6 Turn on the printer, wait for IDLE to appear in the message window, and then print an advanced status page.

The advanced status page provides a record of all current configuration settings, so you can verify that they are the same or recover your settings after the system software has been updated.

Downloading the System Software —Parallel

1 Access the Administration/Miscellaneous/New System Image menu.

2 Select Yes in the New System Image menu.

The printer automatically reboots and waits for the new system software (image) to be sent via your PC's parallel port.

3 Send the new image to the printer.

Type:

```
copy /b *.dl lpt#<input type="text" value=""/>
```

where # is 1 to 3. (/b refers to binary files.)

4 While the system software is loading the Online and Copy LEDs will blink off and on. The display will shows

```
Downloading image  
via parallel port.
```

- 5 After the updated system software has been written to flash ROM or the system disk, the printer returns to IDLE.
- » **Note:** *The new system image will not erase the old image until the printer verifies that the new image is valid.*
- 6 Restart the printer to activate the new system software.
- 7 Print another advanced status page, and verify that the configuration settings are the same.

Downloading the System Software —Serial

- 1 Connect the serial cable to the printer.
- 2 Download the DOS MODEX program available from the QMS Bulletin Board.

Using your modem, dial the QMS Bulletin Board as described in appendix A, "QMS Customer Support." Access the QMS Main Library through the **L** (Library of Files) selection, then do the following:

- a Choose **D ... Download a file**
- b Type **hibaud.exe**↵
- c Exit the bulletin board
- d Terminate the connection
- 3 Type **hibaud**↵
- 4 Set the PC's baud rate to 38400 by typing the following:

 modex.exe↵

 modex # 38400 n 8↵

 (where # is 1 to 4) See the MODEX.DOC file for more information on this program.
- 5 Access the Administration/Miscellaneous/New System Image menu.

6 Select Yes in the New System Image menu.

The printer automatically reboots and waits for the new system software (image) to be sent via your PC's serial port (YES remains in the message window until the new image is sent).

Type the following:

```
copy /b *.dl com#
```

where # is 1 to 4. (/b refers to binary files.)

The Downloading process takes about 30 minutes depending on the size of the file and the speed of your computer. The Ready LED blinks as the new system image is copied to the printer.

7 While the system software is loading the Online and Copy LEDs will blink off and on. The display will show

```
Downloading image  
via serial port.
```

8 After the updated system software has been written to flash ROM, the printer returns to IDLE.

» **Note:** *The new system image will not erase the old image until the printer verifies that the new image is valid.*

9 Restart the printer to activate the new system software.

10 Print another advanced status page, and verify that the configuration settings are the same.



3

Interfaces and Daughterboards

In This Chapter . . .

- “Optional Network Interface” on page 3-2
- “Optional LocalTalk Interface” on page 3-5
- “Optional Serial Interface” on page 3-15
- “Installing the Multi-Res Daughterboard” on page 3-27

Introduction

The QMS 2425/2425 *TURBO* Print System has many options which expand its capabilities. The following are available for purchase from your QMS vendor. Unless otherwise noted, all are discussed in more detail in this chapter.

- » **Note:** *The printer must have a minimum of 12 MB of RAM to use any option.*

Optional Network Interface

In addition to the two standard interfaces (Ethernet and Centronics/IEEE 1284 parallel) your printer supports an optional interface, such as DECnet-TCP/IP, IBM 3270/5250A, serial CrownNet Token-Ring, or another CrownNet Ethernet interface. Additional interface options allow greater flexibility when working in a complex network environment.

- » **Note:** *The LocalTalk network or single Macintosh interface information is contained in the “Optional LocalTalk Interface” section, and the serial interface information is contained in the “Installing an Optional Serial Interface” section, later in this chapter.*

An optional network interface may be installed in the optional interface opening on the back of the printer. This opening is to the left of the other interface ports and it is covered with a rectangular metal plate.

The printer's simultaneous interface operation (SIO) allows the optional interfaces to be active at the same time as the other ports. One host can interface through the parallel port, one through the optional serial port, one through the Ethernet port, and one through the optional interface port. See your QMS vendor for a list of available optional network interfaces available.

Optional Network Interface Assembly Kit

The optional network interface assembly kit includes the following:

- A network interface card
- Network interface documentation

The kit may also include additional parts not required for network interface installation on this printer.

» **Note:** *A Phillips screwdriver is needed for this procedure.*

Installing an Optional Network Interface

⚡ **WARNING!** *Turn off the printer and unplug the power cord before taking the cover off the printer.*

ACHTUNG! *Bitte schalten Sie den Drucker aus und ziehen Sie den Netzstecker heraus bevor Sie die Druckerabdeckung öffnen.*

▲ **Caution:** *It's very important to protect the printer controller board and other circuit boards such as SIMM boards, the Multi-Res daughterboard, and so on from electrostatic damage while performing this task. Review the anti-static guidelines in chapter 2, "Memory and System Software," the "Removing the Controller Board" section, of this manual.*

- 1 Turn off the printer, and then disconnect the power cord and all interface cables (parallel and Ethernet) from the printer.**
- 2 Access the printer controller board.**

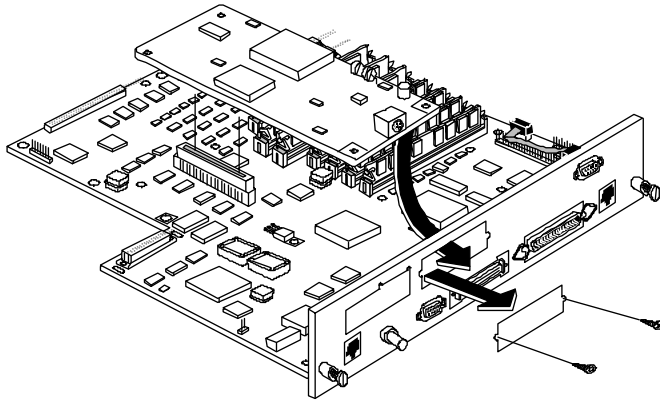
Use the instructions in chapter 2, "Memory and System Software," the "Removing the Controller Board" section, of this manual.

- 3 Remove the two screws from the optional interface plate.**

Save the two screws. (You'll use them when you install the optional interface card.) You can either save or discard the plate.

Optional Network Interface

4 Attach the network interface card (NIC).



- a Position the NIC so the port slides into the opening you just created.
- b Snap the NIC onto the 80-pin connector on the controller board.
- c Press down on the board gently until it is secured by the 80-pin connector and by the plastic standoff post.

5 Replace the controller board.

Use the instructions in chapter 2 “Memory and System Software,” the “Reinstalling the Controller Board” section, of this manual.

- 6 Secure the NIC to the printer with the two screws you removed earlier.**
- 7 Reconnect all interface cables and the power cord, and then turn on the printer.**

Using an Optional Network Interface

Once an optional network interface is installed, refer to the following for more information:

- The *QMS CrownNet Setup Guide* provides information on connecting to the network, installing the software, and configuring the interface and the network. Chapter 2, “Printer Configuration,” of *QMS CrownNet Interface System Administrator's Guide* provides information on setting the network interface parameters. Chapter 5, “Additional Technical Information,” of the *Reference* manual contains a full discussion of the PS Protocol option that appears in the Administration/Communications/Networkx/CrownNet menu. For DECnet-TCP/IP interface information, see the *QMS DECnet-TCP/IP Setup Guide* and the *TCP/IP Protocol Option User's Guide*.
- The documentation that comes with the optional network interface contains information about all other options in the new network interface menu as well as instructions for connecting the printer to the network and for printing over the network.
- Your application and network documentation contain information on printing over the network.

Optional LocalTalk Interface

In addition to the two standard interfaces (Ethernet and Centronics/IEEE 1284 parallel) your printer supports an optional interface, such as DECnet-TCP/IP, IBM 3270/5250A, serial CrownNet Token-Ring, or another CrownNet Ethernet interface. Additional interface options allow greater flexibility when working in a complex network environment.

One optional interface may be installed in the optional interface opening on the back of the printer. This opening is to the left of the other interface ports and it is covered with a rectangular metal plate.

Optional LocalTalk Interface Assembly Kit

The optional network interface assembly kit includes the following:

- A LocalTalk interface card
- LocalTalk interface notice

The kit may also include additional parts not required for interface installation on this printer.

» **Note:** *A Phillips screwdriver is needed for this procedure.*

Installing an Optional LocalTalk Interface

⚡ **WARNING!** *Turn off the printer and unplug the power cord before taking the cover off the printer.*

ACHTUNG! *Bitte schalten Sie den Drucker aus und ziehen Sie den Netzstecker heraus bevor Sie die Druckerabdeckung öffnen.*

▲ **Caution:** *It's very important to protect the printer controller board and other circuit boards such as SIMM boards, the Multi-Res daughterboard, and so on from electrostatic damage while performing this task. Review the anti-static guidelines in chapter 2 "Memory and System Software," the "Removing the Controller Board" section, of this manual.*

1 Turn off the printer, and then disconnect the power cord and all interface cables (parallel and Ethernet) from the printer.

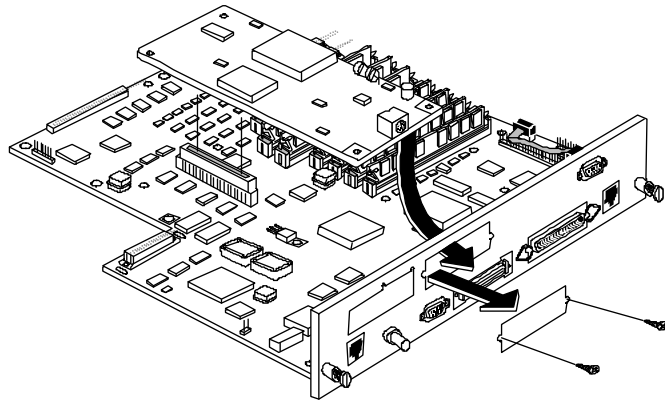
2 Access the printer controller board.

Use the instructions in chapter 2 "Memory and System Software," the "Removing the Controller Board" section, of this manual.

3 Remove the two screws from the optional interface plate.

Save the two screws. (You'll use them when you install the optional interface card.) You can either save or discard the plate.

4 Attach the LocalTalk Interface card.



- a Position the LocalTalk interface card so the port slides into the opening you just created.
- b Snap the LocalTalk interface card onto the 80-pin connector on the controller board.
- c Press down on the board gently until it is secured by the 80-pin connector and by the plastic standoff post.

5 Replace the controller board.

Use the instructions in chapter 2 “Memory and System Software,” the “Reinstalling the Controller Board” section, of this manual.

- 6 Secure the LocalTalk interface card to the printer with the two screws you removed earlier.**
- 7 Reconnect all interface cables and the power cord, and then turn on the printer.**

Using the Optional LocalTalk Interface

Connecting to the optional LocalTalk interface involves basically three steps: assembling the proper interface cabling (use a LocalTalk-type kit such as Farallon's PhoneNET, available from your QMS vendor),

Optional LocalTalk Interface

making the connection, and making sure the necessary printing files are installed on the Macintosh.

The optional LocalTalk interface is used to print if

- Your host is any member of the Apple Macintosh family. The instructions in this chapter explain how to connect a Macintosh (via either a direct connection or through a LocalTalk network connection) to the QMS 2425/2425 *TURBO* Print System.
- Your host is an IBM PC or compatible microcomputer, workstation, minicomputer, or mainframe computer that connects through a print network (such as AppleShare) using LocalTalk-type connectors and boxes.

If you're connecting to a host such as these, you may need additional hardware or software. See your host or network documentation for details specific to your setup.

Interface

Interface is the point at which two elements connect so they can work together. Printer-host interface is the way a printer connects to and works with a host (for example, a microcomputer, minicomputer, mainframe computer, or a network), and it involves both hardware and software. The way your printer interfaces with a host depends on many things, including host type, host ports available, interface cabling, application software, printer emulations, and printer drivers.

Macintosh Interface Cabling

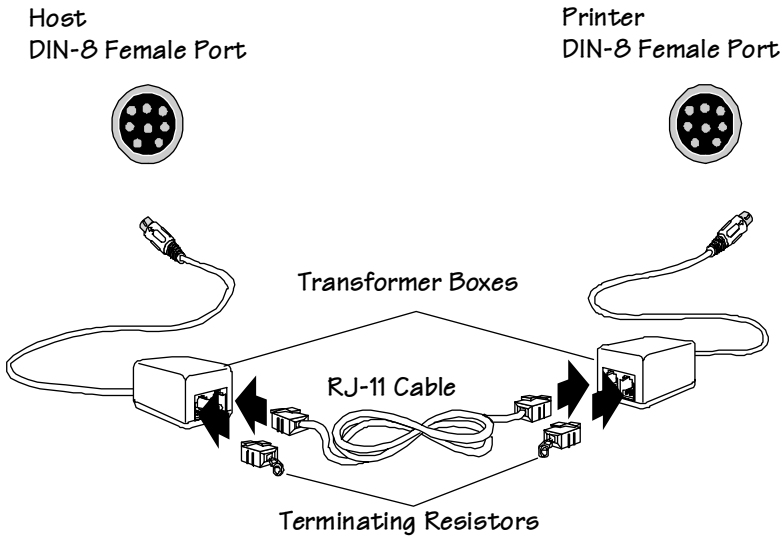
To connect your printer to a single Macintosh, you must have

- Two PhoneNET-type transformer boxes: one with a DIN-8 connector for the printer port and one with a DIN-8 connector for the Macintosh port
- An RJ11 (telephone) cable
- Two terminating resistors to close the open sockets left in the transformer boxes after the connection is made

Optional LocalTalk Interface

If you're replacing a printer already connected to a Macintosh, you probably already have this equipment.

If you're connecting the printer to an AppleTalk network with more than one Macintosh, see your PhoneNET and Macintosh documentation for more information.



- » **Note:** For cable pinout information, see appendix B, "Technical Specifications," the "Cable Pinouts" section, of the Reference manual.

Making the Connection

Use the following procedure to connect your printer to the Macintosh.

- ▲ **Caution:** Turn off both the printer and the Macintosh before making the connection.

- 1 Plug the connector from one transformer box into the printer's LocalTalk port.
- 2 Plug the connector from the other transformer box into the Macintosh printer port.

- 3 Connect the two transformer boxes with the telephone cable.**
- 4 Put terminating resistors in all open sockets in the connector boxes.**

This ensures proper communication and helps speed up transmission.

- 5 Turn on the printer.**

A start-up page should print if it has not been disabled.

Macintosh Printing Software

If your Macintosh was previously connected to a PostScript printer, you can probably start printing now with the printing software already in place. Refer to your application documentation for instructions on sending a document to the printer.

However, if you want to use all of your printer's special features (like collation, 600x600 dpi printing), **or** if you've never printed to a PostScript printer before, you need to take a few minutes to make sure you have the following printing software installed:

- The QMS 2425 PPD file
- Application-specific printer files

See chapter 5, "Connecting to a Macintosh," in the *Getting Started* manual for details on installing printing software.

Testing Macintosh Communication

You can check communication between the printer selected in the Chooser and the Macintosh by sending a file to the printer from an application (see your application documentation for more information) or by printing a directory, as described here:

- 1 Display a disk or folder window.**
- 2 Set up page information.**

Choose Page Setup from the File menu. Select paper size, printing orientation, and any other necessary options. Then select OK.

3 Print a directory or a window.

- a Choose Print Directory or Print Window from the File menu. A dialog box appears.
- b Select the printing options you want; then click OK. If no page prints, check chapter 6, “Troubleshooting,” of the *Operation* guide.

Printing from the Macintosh

You’re now ready to print from your Macintosh. From this point, you’ll probably perform most printing tasks from your application. For specific information, check the printing section in your application documentation.

For information on print media types and sizes, see chapter 2, “Print Media,” in the *Reference* manual.

A Note for Users of Aldus Applications

If you use an Aldus application (or one that used to be owned by Aldus, such as Adobe PageMaker or Macromedia Freehand), when you want to print, hold down the Option key while selecting Print from the File menu. This brings up the LaserWriter windows, which contains the QMS printing options. Normally, these applications bypass LaserWriter and use an application-specific printer driver, which prevents you from accessing QMS printing options.

A Note for Users of Adobe PhotoShop

If you use Adobe PhotoShop, go to PhotoShop’s Page Setup dialog box, and select Use Printer’s Default Screen under the Screens option. This allows your choices in the QMS driver to take effect.

Setting LocalTalk Interface Parameters

Use the Administration/Communications/LocalTalk menu to set the LocalTalk interface values used for printer-host communication.

Optional LocalTalk Interface

Mode

Enables or disables the communication interface.

Menu	Administration/Communications/LocalTalk/Mode
Choices	Enabled—Establishes one-way LocalTalk communication from the host to the printer. Disabled—Turns off the LocalTalk interface, and the printer stops accepting LocalTalk interface print jobs.
Default	Enabled
Notes	The printer must be restarted for changes to the Mode menu to take effect. Changing the Mode setting will cause the REBOOT NOW? prompt to appear. You can either choose to restart the printer now and this change takes effect immediately or you can manually restart the printer and have this change take effect later.

Min K Spool

Sets the minimum number of kilobytes of system memory allocated to the LocalTalk interface.

Menu	Administration/Communications/LocalTalk/Min K Spool
Choices	00000-99999
Default	00015
Notes	<p>This value must be less than K Mem For Spool (Administration/Memory menu).</p> <p>A 00000 value does not turn off the spooling buffer for the LocalTalk interface. If the value is set to 00000, the printer calculates the Min K Spool automatically at initialization.</p> <p>The printer is immediately restarted when a change is made to this option. (For example, change the value to 35, press the Select key, and the menu changes to LocalTalk. Press the Online key and the printer automatically reboots.)</p>

Connection

Allows you to enable or disable print spooling.

Menu	Administration/Communications/LocalTalk/Connection
Choices	<p>Conventional—Allows one LocalTalk connection and accepts only one print job at a time. If two users send print jobs to the printer, the workstation belonging to the first user is unavailable until the first job has been printed, and the workstation belonging to the second user is unavailable until both jobs have been printed.</p> <p>Spool—Allows multiple LocalTalk connections and accepts (spools) more than one print job at a time. Workstations are available while jobs are printing.</p> <p>Both—Allows both single and multiple LocalTalk connections.</p>
Default	Conventional

PS Protocol

Sets the binary communication protocol (BCP) for communicating over a LocalTalk interface to a PostScript printer.

Menu	Administration/Communications/LocalTalk/PS Protocol
Choices	<p>Normal—Enables standard, ASCII (7-bit) hex protocol. Data is sent and received in ASCII format. This mode is recommended if you do not print binary data. It was designed for data in the printable ASCII range. Print jobs can change this setting through PostScript operators.</p> <p>Normal Fixed—Enables standard, ASCII (7-bit) hex protocol. Print jobs cannot change this setting through PostScript operators.</p> <p>Binary—Enables binary communications protocol (BCP). Print jobs can change this setting through PostScript operators. Data in the printable ASCII range also prints.</p> <p>Binary Fixed—Enables binary fixed communications protocol (BCP). Print jobs cannot alter change this setting through PostScript operators. Data in the printable ASCII range also prints.</p>
Default	Normal
Notes	See chapter 5, “Additional Technical Information,” in the <i>Reference</i> for a full discussion of PS Protocol.

Def Job Prio

Allows you to specify which jobs are printed first, according to the interface through which they are received, when jobs are received simultaneously. In other words, you can give jobs received via the LocalTalk interface priority over jobs received via the parallel or optional serial interface.

Menu	Administration/Communications/LocalTalk/Def Job Prio
Choices	001-100 (highest-lowest priority)
Default	001 (highest priority)

Optional Serial Interface

What's in the Serial Interface Kit

The optional serial interface assembly kit includes the following:

- Serial interface with ribbon cable attached

» **Note:** *A Phillips screwdriver is needed for this procedure.*

Installing an Optional Serial Interface

⚠ **WARNING!** *Turn off the printer and unplug the power cord before taking the cover off the printer.*

ACHTUNG! *Bitte schalten Sie den Drucker aus und ziehen Sie den Netzstecker heraus bevor Sie die Druckerabdeckung öffnen.*

▲ **Caution:** *It's very important to protect the printer controller board and other circuit boards such as SIMM boards, the Multi-Res daughterboard, and so on from electrostatic damage while performing this task. Review the anti-static guidelines in chapter 2, "Memory and System Software," the "Single In-Line Memory Modules" section, of this manual.*

Optional Serial Interface

- 1 Turn off the printer, and then disconnect the power cord and all interface cables (parallel and Ethernet) from the printer.

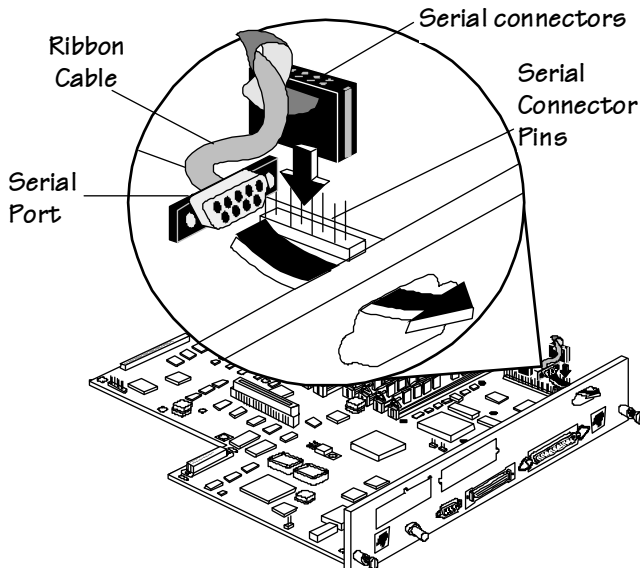
- 2 Access the printer controller board.

Use the instructions in chapter 2, “Memory and System Software” the “Removing the Controller Board” section, of this manual.

- 3 Remove the two screws from the optional interface plate.

Save the two screws. (You’ll use them when you install the optional interface card.) You can either save or discard the plate.

- 4 Attach the serial interface.



- a Position the serial connectors directly over the serial connector pins on the controller board.
- b Snap the serial connectors directly onto the serial connector pins.
- c Press down on the connector gently until it is firmly seated on the connector pins.



Caution: Do not push or pull from the ribbon cable. Use the cable connector.

5 Replace the controller board.

Use the instructions in chapter 2, “Memory and System Software,” the “Reinstalling the Controller Board” section, of this manual.

6 Secure the serial interface to the printer with the two screws you removed earlier.

7 Reconnect all interface cables and the power cord, and then turn on the printer.

Before Making a Serial Connection

Connecting your printer to a PC via the optional serial port involves assembling the proper interface cabling, making the connection, and installing the necessary PC printing software.

If you have a new PC and it has not been connected yet, before connecting the printer to the PC, you should follow the manufacturer's instructions for setting up the PC and installing (if necessary) any operating system software, such as DOS and/or Windows.

What You Need for a Serial Interface

Interface cables are not included with your printer. If you're replacing a printer, you may already have the necessary cables. If not, you'll need to purchase the cables from your QMS vendor or a local computer store.

To connect your printer to a single PC, you need a serial cable with either a 9- or 25-pin connector (depending on your PC's serial port) and a 9- or 25-pin null modem assembly to connect to the serial cable. Depending on the type of null modem assembly you have, you may also need a 9-to-25-pin adapter. See your cable vendor for more specific cable assembly information.

- » **Note:** See the “Cable Pinouts” section of appendix B in the Reference manual for cable pinout specifications.

Optional Serial Interface

How to Choose a Serial Cable

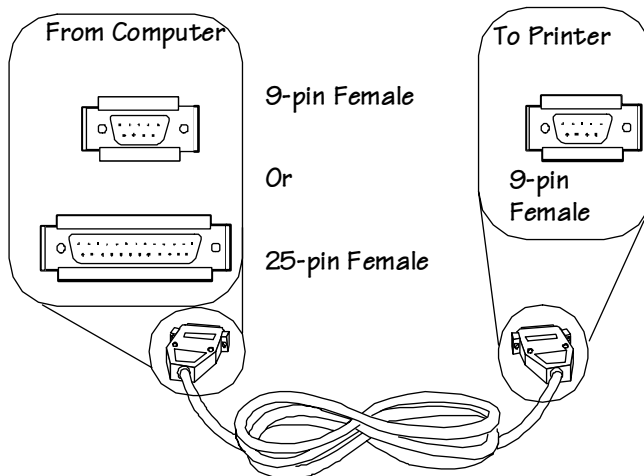
If the printer is more than about 6.5 feet/2 meters from the PC, we recommend using a serial cable for better communication. For best results, the serial cable should be less than 25 feet/7.6 meters long.

Making the Connection

-
- ▲ **Caution:** *If you're connecting the printer to a single PC via the serial interface, turn off both systems first.*
-

1 Serial cable

- a Connect the serial cable (with the null modem adapter attached) to the PC's 9- or 25-pin male serial port.
- b Connect the other end of the cable to the printer's serial port (labeled "SERIAL").
- c Tighten the screws.



2 Turn on both the printer and the PC.

A start-up page should print and Serial RS-232C should be listed with the interfaces. If it doesn't, see the "Printer Problem Checklist" in chapter 6, "Troubleshooting," of the *Operation* guide.

3 Enable serial communications via the Administration/Communications/Serial/Mode menu from the control panel.

4 Test communication between the printer and the PC.

You can do this by sending a file from one of your applications, or you can see "Testing Communication" in chapter 6, "Troubleshooting," of the *Operation* guide.

PC Printing Software

If you're replacing a PostScript printer, you can probably start printing now with the printing software already in place. Refer to your application documentation for instructions on sending documents to the printer.

However, if you want to be able to use all your printer's special features (like collation, 600x600 dpi and 1200x1200 dpi printing), **or** if you've never printed to a PostScript printer before, we recommend you take a few minutes to make sure you have the following printing software installed:

- A PostScript printer driver
- Printer description files (if you use QuarkXPress 3.3 or later, Adobe PageMaker, or Adobe PhotoShop)

See the of chapter 3, "Connecting to a PC, in the *Getting Started* for details on installing printing software.

Setting Serial Interface Parameters

Use the Administration/Communications/Serial menu to set the serial interface communication values used for printer-host communication.

Optional Serial Interface

Mode

Enables or disables the serial port.

Menu	Administration/Communications/Serial/Mode
Choices	<p>Interactive—Establish two-way communication between the host and the printer.</p> <p>Noninteractive—Establish one-way communication from the host to the printer.</p> <p>Disabled—Turn off serial communication with the host. The printer stops accepting print jobs over the serial interface.</p>
Default	Interactive
Notes	The printer must be restarted for changes to the Mode menu to take effect. You can either let the printer restart automatically after you save the change and exit the Configuration menu, or you can wait for the change to take effect the next time you manually turn on the printer.

Emulation

Sets the serial interface emulation.

Menu	Administration/Communications/Serial/Emulation
Choices	<p>ESP, Hexdump, PostScript, PCL5, HPGL, Lineprinter</p> <p>» Note: Other optional emulations, such as TIFF, CAL, CCITT, and LN03 also appear, if installed.</p>
Default	ESP

Minimum Number of Kilobytes for Spooling

Sets the minimum number of kilobytes of system memory allocated to the serial interface.

Menu	Administration/Communications/Serial/Min K Spool
Choices	00000-99999
Default	00015
Notes	<p>This value must be less than K Mem For Spool.</p> <p>A 00000 value does not turn off the spooling buffer for the serial interface. If the value is set to 00000, the printer calculates the Min K Spool automatically at initialization.</p> <p>The printer must be restarted for changes to the Min K Spool menu to take effect. You can either let the printer restart automatically after you save the change and exit the Configuration menu, or you can wait for the change to take effect the next time you manually turn on the printer.</p>

Spooling Timeout

Sets the number of seconds the interface waits for data from the host before terminating a spooled print job.

Menu	Administration/Communications/Serial/Spool Timeout
Choices	00000-99999
Default	00030

End Job Mode

Enables (and identifies an end-of-job sequence) or disables data stream sensing for the end-of-document (EOD) command.

Menu	Administration/Communications/Serial/End Job Mode
Choices	None—The printer recognizes only the PostScript ^D command. QMS EOD—The printer recognizes only the QMS %%EndOfDocument command. HP EOD—The printer recognizes only the HP <ESC>%12345X command.
Default	None
Notes	See chapter 5, “Additional Technical Information,” in the <i>Reference</i> for details on how to implement this feature on your QMS 2425/2425 <i>TURBO</i> Print System.

Default Job Priority

Allows you to specify which jobs are printed first, according to the interface through which they are received, when jobs are received simultaneously. For example, you can give jobs received via the serial interface priority over jobs received via the parallel and Ethernet interfaces.

Menu	Administration/Communications/Serial/Def Job Prio
Choices	001-100 (highest-lowest priority)
Default	001 (highest priority)

Baud Rate

Sets the rate data is transmitted (bits per second) over the serial interface.

Menu	Administration/Communications/Serial/Baud Rate
Choices	300, 600, 1200, 2400, 4800, 9600, 19200, 38400
Default	9600
Notes	Baud rates of 19200 and 38400 require hardware flow control (Administration/Communications/Serial/Hdwe Flow Ctl menu).

Parity

Sets the check bit used to identify data transmission errors.

Menu	Administration/Communications/Serial/Parity
Choices	None, Odd, Even
Default	None
Notes	The printer's parity setting must match that of the host or application. Use the Administration/Communications/Serial/Ignore Parity menu to specify how the printer handles parity errors.

Ignore Parity Errors

Specifies how the printer should handle parity errors.

Menu	Administration/Communications/Serial/Ignore Parity
Choices	Off—Ignore parity errors. The printer prints its best interpretation of the character(s) affected by the error. On—Don't ignore parity errors. The printer replaces the character(s) affected by the error with a question mark.
Default	Off
Notes	Use the Administration/Communications/Serial/Parity menu to set parity.

Optional Serial Interface

Receive Software Flow Control

Sets the software communication protocol used by the printer to control communication from the host computer.

Menu	Administration/Communications/Serial/Rcv Sw Flow Ctl
Choices	ETX/ACK, Robust XON/XOFF, None, XON/XOFF
Default	XON/XOFF

Transmit Software Flow Control

Sets the software communication protocol used by the host computer to control communication with the printer.

Menu	Administration/Communications/Serial/Xmit Sw Flow Ctl
Choices	ETX/ACK, None, XON/XOFF
Default	None

Data Bits

Sets the number of data bits transmitted per character.

Menu	Administration/Communications/Serial/Data Bits
Choices	7 Bits, 8 Bits
Default	8 Bits

Stop Bits

Sets the number of stop bits transmitted per character.

Menu	Administration/Communications/Serial/Stop Bits
Choices	1 Bit, 2 Bits
Default	1 Bit

Hardware Flow Control

Controls the flow of data between the printer and the host.

Menu	Administration/Communications/Serial/Hdwe Flow Ctl
-------------	--

Choices	DSR POL DSR DTR POL DTR RTS CTS	Normal, reverse Off, on Normal, reverse Off, on Off, on Off, on
Defaults	DSR POL DSR DTR POL DTR RTS CTS	Normal Off Normal On Off Off
Notes	If the host uses hardware flow control, set this option to match the type used by the host. However, to download printer system software to flash ROM via the serial port, RTS and CTS must be set to On, and the cable pinouts must be connected as shown in appendix B, "Technical Specifications."	

PS Protocol

Sets the binary communications protocol (BCP) for communicating over a serial interface to a PostScript printer.


Menu	Administration/Communications/Serial/PS Protocol
Choices	<p>Normal—Enables standard, ASCII (7-bit) hex protocol. Data is sent and received in ASCII format. This mode is recommended if you do not print binary data. It was designed for data in the printable ASCII range. Print jobs can change this setting through PostScript operators.</p> <p>Normal Fixed—Enables standard, ASCII (7-bit) hex protocol. Print jobs cannot change this setting through PostScript operators.</p> <p>Binary—Enables binary communications protocol (BCP). Print jobs can change this setting through PostScript operators. Data in the printable ASCII range also prints.</p> <p>Binary Fixed—Enables binary fixed communications protocol (BCP). Print jobs cannot alter change this setting through PostScript operators. Data in the printable ASCII range also prints.</p>
Default	Normal
Notes	See chapter 5, “Additional Technical Information,” in the <i>Reference</i> for a full discussion of PS Protocol.

Installing the Multi-Res Daughterboard

What's in the Kit?

- Multi-Res daughterboard
- 2 plastic support posts

Procedure

 **WARNING!** Turn off the printer and unplug the power cord before taking the cover off the printer.

ACHTUNG! Bitte schalten Sie den Drucker aus und ziehen Sie den Netzstecker heraus bevor Sie die Druckerabdeckung öffnen.

▲ Caution: It's very important to protect the printer controller board and other circuit boards such as SIMM boards, the Multi-Res daughterboard, and so on from electrostatic damage while performing this task. Review the anti-static guidelines in "Installing an Optional Network Interface" on page 3-3.

- 1 Turn off the printer, and then disconnect the power cord and all interface cables (parallel, Ethernet, and so on, if installed) from the printer.**
- 2 Access the printer controller board.**

Use the instructions chapter 2, "Memory and System Software" the "Removing the Controller Board" section, of this manual.
- 3 Position the controller board so that you're looking at the interface panel.**
- 4 Attach the Multi-Res daughterboard.**
 - a Snap the two plastic standoffs into the controller board.

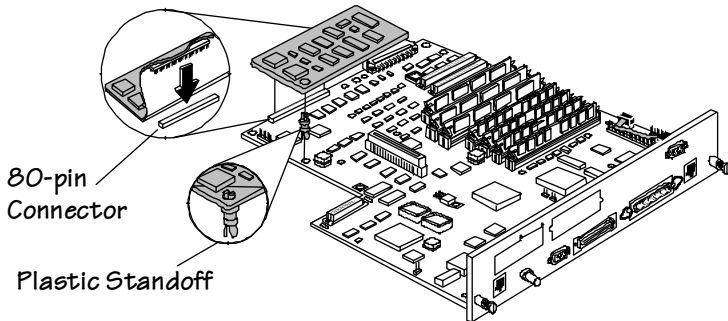
Installing the Multi-Res Daughterboard

- b Position the daughterboard over the plastic standoffs and the 80-pin connector (it should be facing you).
- c Place pin-1 of the daughterboard into pin-1 on the controller board, making sure that all other pins are correctly aligned. Then gently press down on the daughterboard until the pins are firmly seated.



Caution: Make sure that the 80-pin connector on the daughterboard and the 80-pins on the controller board are properly aligned. Damage to the controller board could result if the pins are misaligned.

- d Snap the daughterboard onto the two support posts.



5 Replace the controller board.

Use the instructions in chapter 2, “Memory and System Software,” the “Reinstalling the Controller Board” section, of this manual.

6 Reconnect all interface cables and the power cord, and then turn on the printer.

7 Check that Multi-Res is listed under “Options” on the start-up page.

If not, you may have to repeat these procedures to make sure the board is correctly installed.

- » **Note:** Your printer can't support the Multi-Res daughterboard with the standard 8 MB printer memory. You must add memory as specified in the following tables. See chapter 2 "Memory and System Software," the "Single In-Line Memory Modules" section, of the Options for information on installing additional memory.

System Memory for System Without a Disk

Paper Size	1200 dpi	
	Simplex	Duplex
Letter	24 MB	36 MB
Legal	28 MB	48 MB
A4	24 MB	36 MB
Executive	20 MB	32 MB
11x17	36 MB	68 MB
A3	40 MB	72 MB
Universal	40 MB	76 MB

System Memory for System With Disk and Disk Swapping On

Paper Size	1200 dpi	
	Simplex	Duplex
Letter	20 MB	36 MB
Legal	24 MB	44 MB
A4	20 MB	36 MB
Executive	16 MB	28 MB
11x17	36 MB	64 MB
A3	36 MB	68 MB
Universal	40 MB	72 MB

- » **Note:** The 2425 TURBO EX requires 8 MB additional RAM due to the system image running out of RAM since there is no flash memory in this configuration.

- ▲ **Caution:** This hardware change automatically restores defaults. If your memory settings are specific for your environment, print an advanced status page before making this hardware change, so you can recover these memory settings.


Option Controller Board

The option controller board must be installed before you can use the optional high-capacity input paper deck.

What's in the Kit?

- Option controller board

Installing the Option Controller Board

 **WARNING!** Turn off the printer and unplug the power cord before taking the cover off the printer.

ACHTUNG! Bitte schalten Sie den Drucker aus und ziehen Sie den Netzstecker heraus bevor Sie die Druckerabdeckung öffnen.

- ▲ **Caution:** *It's very important to protect the printer controller board and other circuit boards such as SIMM boards, the Multi-Res Multi-Resdaughterboard, and so on from electrostatic damage while performing this task. Review the anti-static guidelines in chapter 2, "Memory and System Software," the "Removing the Controller Board" section, of this manual.*
-

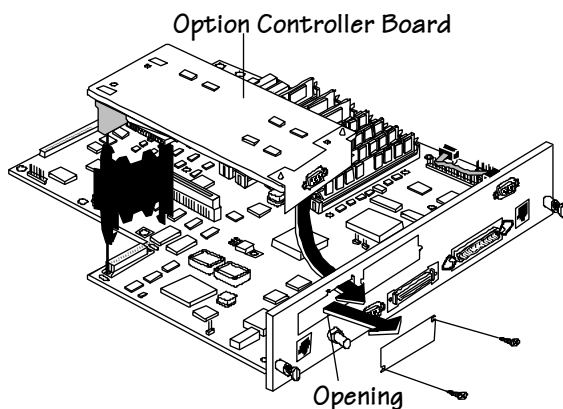
1 Access the printer controller board.

Use the instructions chapter 2, "Memory and System Software," the "Removing the Controller Board" section, of this manual.

2 Remove the two screws from the option controller plate.

Save the two screws. (You'll use them when you install the option controller board.) You can either save or discard the plate.

3 Attach the option controller board.



- a Position the board so the port slides into the opening you just created.
 - b Gently snap the option controller board onto the connector on the controller board.
 - c Press down on the board gently until it is secured by the connector.
- 4 Secure the option controller board to the controller bracket with the two screws you removed earlier.**
- 5 Replace the controller board.**

Use the instructions in chapter 2, “Memory and System Software,” the “Reinstalling the Controller Board” section, of this manual.



4

Software

In This Chapter . . .

- “Downloading an Emulation” on page 4-2
- “Downloading Disk Fonts” on page 4-5
- “Using Font SIMMS” on page 4-6
- “Kanji SIMM Kit” on page 4-9
- “ImageServer” on page 4-20
- “Forms Printing” on page 4-19

Introduction

The QMS 2425/2425 *TURBO* Print System has many software options which expand its capabilities. The following are available for purchase from your QMS vendor:

- CGM Emulation
 - LN03 Plus Emulation
 - QUIC II Emulation
 - QMS ProCollection SIMM
 - QMS Kanji SIMM
 - QMS Kanji Internal Hard Disk
 - QMS ImageServer
 - QMS QFORM
 - XES Emulation
- » **Note:** *The printer must have a minimum of 12 MB of RAM to use any option.*

Downloading an Emulation

Optional emulations, such as LN03 and QUIC II, are available as PostScript files on floppy disks for your PC. See your QMS vendor for the available optional emulations. This section describes how to download an optional emulation from a floppy disk to the printer's hard disk.

Before you can download an emulation, your system must meet the following system requirements:

Minimum Emulation Requirements

Emulation	Hard Disk Required	Minimum RAM
LN03 Plus	Yes (Internal or External)	12 MB
QUIC II	Yes (Internal or External)	16 MB
CGM	Yes (Internal, at least 256 MB)	16 MB
XES	Yes (Internal or External)	N/A

- » **Note:** *At least one optional hard disk (internal or external) must be installed on the printer before you can download an emulation. If more than one hard disk is available, the emulation automatically installs itself on the disk with the most free storage space. QMS recommends that you add at least 1 MB memory, for each optional emulation installed, to the K Mem Emulation memory client. This will ensure that the printer can run the emulation without slowing down performance.*

Once an emulation is downloaded, you can use a s[e]co; deinstallation utility to remove some emulations. The only way to remove other emulations is to reformat the hard disk (Administration/Disk Operations/Format Disk menu or QMS CrownAdmin3 software). Check the emulations documentation for more information.

Procedure

- 1 If necessary, connect the PC to the printer's parallel or serial port.
- 2 Turn on the printer, and wait for IDLE to appear in the message window.
- 3 Insert the emulation disk in your PC's 3.5" disk drive, and change to that drive (for example, if you're using the A drive, type a:↵).

Optional Fonts

4 Send the emulation to the printer's hard disk.

If your PC and printer are connected through the parallel port, type

```
copy /b *.ps lpt#↵
```

where # is 1 to 3. (/b refers to binary files.)

- If your PC and printer are connected through the optional serial port, type

```
copy /b *.ps com#↵
```

where # is 1 to 4. (/b refers to binary files.)

- If your PC and printer are connected through the CrownNet Ethernet port, type

```
ftp printername↵      (or ftp ipaddress)  
bin↵  
put filename.ps  
quit↵
```

where printername is the printer's name, ipaddress is the printer's IP address and filename is the name of the emulation file.

5 When the downloading is complete, reboot the printer.

The emulation is ready to be used.

Optional Fonts

The following types of optional fonts are available for the QMS 2425/2425 *TURBO* Print System:

- A disk containing typefaces (fonts), such as the ProCollection for the HP emulations on your printer or other special fonts.
- A SIMM containing 65 ProCollection fonts for the HP emulation on your printer.

- A SIMM containing Kanji fonts and other files.
 - A Kanji Option Kit that contains a pre-formatted external hard disk with Kanji fonts and other files or a Kanji SIMM.
- » **Note:** *Contact your QMS vendor for availability of these fonts as well as logos, signatures, or other form services. See appendix A, "QMS Customer Support," in your printer documentation, for locations and telephone numbers.*

Downloading Disk Fonts

Optional typefaces (fonts), such as the ProCollection for the HP emulations on your printer and other special PostScript fonts, are available as PostScript files on floppy disks for your PC. See your QMS vendor for the available optional fonts. This section describes how to download an optional font from the floppy disk to the printer's hard disk.

- » **Note:** *At least one optional hard disk (internal or external) must be installed on the printer before you can download a font. If more than one hard disk is available, the font automatically installs itself on the disk with the most free storage space.*

Once a font is downloaded, the only way to remove it is to reformat the hard disk (Administration/Disk Operations/Format Disk menu).

Procedure

This procedure contains the instructions for downloading the fonts from a floppy disk onto your hard disk.

- 1 **If necessary, connect the PC to the printer's parallel or serial port.**
- 2 **Turn on the printer, and wait for IDLE to appear in the message window.**
- 3 **Insert the fonts disk in your PC's 3.5" disk drive, and change to that drive (for example, if you're using the A drive, type a:↵).**

4 Send the fonts to the printer's hard disk.

- If your PC and printer are connected through the parallel port, type

```
copy /b *.ps lpt#↵
```

where # is 1 to 3. (/b refers to binary files.)

- If your PC and printer are connected through the optional serial port, type

```
copy /b *.ps com#
```

where # is 1 to 4. (/b refers to binary files.)

- If your PC and printer are connected through the CrownNet Ethernet port, type

```
ftp printer name↵  
bin↵  
input filename *.ps↵  
quit↵
```

5 When the downloading is complete, reboot the printer.

Using Font SIMMS

When installing a font SIMM, such as the ProCollection SIMM, with your printer's standard 8 MB of RAM you must do one of the following:

- Add more printer memory. This memory will also improve performance because additional memory is allocated to font caching. See chapter 2, "Memory and System Software" the "Single In-Line Memory Modules" section for information on installing additional memory.

- Set the Administration/Memory/Disk Cache client to 20 KB after installing the font SIMM, and also after performing an Administration/Memory/Quick Config.

▲ **Caution:** *You may need to decrease one of the other memory clients before increasing the Disk Cache client. This option should be used only by individuals who are familiar with adjusting memory settings. Improper use of this option could cause your system to operate incorrectly.*

Installation Procedure

● **WARNING!** *Turn off the printer and unplug the power cord before taking the cover off the printer.*

ACHTUNG! *Bitte schalten Sie den Drucker aus und ziehen Sie den Netzstecker heraus bevor Sie die Druckerabdeckung öffnen.*

▲ **Caution:** *It's very important to protect the printer controller board and other circuit boards such as SIMM boards, the Multi-Res daughterboard, and so on from electrostatic damage while performing this task. Review the anti-static guidelines in "Removing the Controller Board," earlier in this section.*

Handle the SIMM carefully and preferably by the edges only.

1 Access the printer controller board

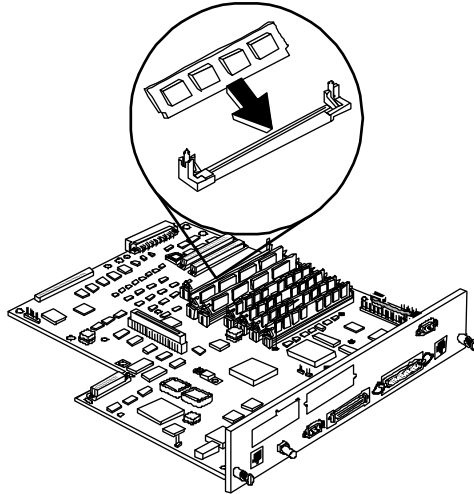
Use the instructions in chapter 6, the "Removing the Controller Board" section, of the *Reference*.

2 Position the controller board so the interface panel is facing you.

3 Remove the SIMM from the anti-static bag.

4 Insert the SIMM into the font SIMM connector

Hold the SIMM at a 45° angle facing the bottom of the controller board. Slide the SIMM into the Font SIMM connector, and then push gently on it to seat it securely in the connector.



5 Snap the SIMM into place.

When seated, the SIMM stands upright, firmly in place. If you cannot snap the SIMM into place, do not force it. Reposition it, making sure that the bottom of the SIMM is seated completely in the connector.

6 Insert the controller board in the printer.

Use the instructions in chapter 2, the “Reinstalling the Controller Board” section.

7 Ensure that the Administration/Memory/Manual Config memory client is at least 20 KB.

8 Access the fonts.

Most applications handle font selection for you.

- 9 You must use an application containing a compatible driver (for example, ProCollection uses an HP driver). The driver lists each font by name or refers to the fonts as a group.

Kanji SIMM Kit

The QMS Kanji SIMM Kit contains a Kanji SIMM with Kanji (Japanese) fonts and other files. These fonts can be printed at a variety of point sizes and in different styles and resolutions.

Once the SIMM is installed in your QMS 2425/2425 *TURBO* Print System, the Kanji fonts are available for use just as if they were resident in the printer.

- » **Note:** *The QMS 2425/2425 TURBO Print System Base model can't support Kanji with the standard memory. You must have a total of 12 MB printer memory for optimal Kanji support. This memory will also improve performance because additional memory is allocated to font caching. See chapter 2, "Memory and System Software," the "Single In-Line Memory Modules," section for information on installing additional memory.*

What's in the Kit?

Your Kanji SIMM kit contains the following items:

- One anti-static wristband
- One Kanji SIMM with the following 2 Kanji fonts:

This Font	Is licensed to QMS by...
Ryumin Light-KL Gothic BBB-Medium	Morisawa and Company, Ltd.

If anything is missing, call your QMS vendor. See appendix A, "QMS Customer Support," for locations and telephone numbers.

Hardware Requirements

To use your QMS Kanji SIMM fonts, you need

- A QMS Kanji SIMM Kit
 - Minimum of 12 MB memory
 - A Macintosh, IBM PC, or compatible computer with a Kanji operating system and a Kanji application. See the following section for software requirements.
- » **Note:** *The QMS 2425/2425 TURBO Print System base model can't support Kanji with the standard memory; you need at least 12 MB of memory for Kanji support. This additional memory will also increase speed because additional memory is allocated to font caching.*

Software Requirements

To use the QMS Kanji SIMM fonts, you need an application (such as a word processing or desktop publish package) that supports both the Kanji fonts and PostScript printing.

The following system software is also required:

Macintosh System Software

- KanjiTalk, version J1-6.0.7 or later
- System File, version J1-6.0.7 or later
- Laser Prep, version J1-6.0.1 or later
- LaserWriter, version J1-6.0.2 or later
- Print Monitor, version J1-1.3 or later
- MultiFinder, version J1-6.1.7 or later

PC System Software

- If you're using Windows, version 3.1J or later
- If you're using DOS, version 5.0J or later

Installation Procedure

-
- ⚡ **WARNING!** Turn off the printer and unplug the power cord before taking the cover off the printer.

ACHTUNG! Bitte schalten Sie den Drucker aus und ziehen Sie den Netzstecker heraus bevor Sie die Druckerabdeckung öffnen.

- ▲ **Caution:** It's very important to protect the printer controller board and other circuit boards such as SIMM boards, the Multi-Res daughterboard, and so on from electrostatic damage while performing this task. Review the anti-static guidelines in chapter 2 "Memory," the "Removing the Controller Board" section of this manual.

Handle the SIMM carefully and preferably by the edges only.

1 Access the printer controller board

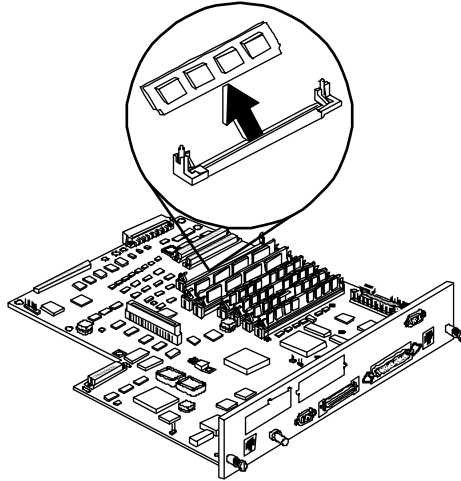
Use the instructions chapter 2, "Memory and System Software," the "Removing the Controller Board" section.

2 Position the controller board so the interface panel is facing you.

3 Remove the Kanji SIMM from the anti-static bag.

4 Insert the Kanji SIMM into the Kanji SIMM connector.

Hold the SIMM at a 45° angle facing the bottom of the controller board. Slide the SIMM into the Kanji SIMM connector, and then push gently on it to seat it securely in the connector.



5 Snap the SIMM into place.

When seated, the SIMM stands upright, firmly in place. If you cannot snap the SIMM into place, do not force it. Reposition it, making sure that the bottom of the SIMM is seated completely in the connector.

6 Insert the controller board in the printer.

Use the instructions in chapter 2, "Memory and System Software," the "Reinstalling the Controller Board" section.

Increasing the Disk Cache Size

To use the Kanji fonts with QMS 2425/2425 *TURBO* Print System's standard 12 MB of RAM you must do one of the following:

- Set the Administration/Memory/Manual/KMem/Disk Cache client to 28 KB.

▲ **Caution:** *The factory default for this memory client is 28 KB. If this default has been changed to a value less than 28 KB, you may need to decrease one of the other memory clients before increasing the Disk Cache client. This option should be used only by individuals who are familiar with adjusting memory settings. Incorrect use of this option could cause your system to operate incorrectly.*

- If your printer has an optional hard disk, and if Administration/Memory/Enable Disk Swap is set to On, then any extra memory is distributed to all memory clients.
- Add more printer memory which automatically increases the Disk Cache client's memory setting. See chapter 2, "Memory and System Software" the "Single In-Line Memory Modules" section, for information on installing additional memory.

If your printer has more memory than 8 MB of RAM, the size of the disk cache is adequate.

Accessing the Kanji Fonts

After you install the Kanji SIMM and configure the printer, you are ready to access the Kanji fonts. From the list of sections below, locate the section that matches your printer environment, and follow the instructions to access the Kanji fonts.

- "If You are Using a Macintosh" on page 4-14
- "If You Are Using Windows" on page 4-16
- "If You Are Using DOS" on page 4-16

If You are Using a Macintosh

For your Macintosh system, you will need to install the bitmapped screen fonts and Kanji APD and PPD files. The bitmapped screen fonts display an image of how a printed typeface looks, and they also provide metrics information used by the application to determine which outline font to use when formatting text.

Install the Screen Fonts

Install the bitmapped screen fonts from the floppy disk to your Macintosh as follows:

- » **Note:** *Make sure that the bitmapped screen fonts disk is copied only to the KanjiTalk System Folder. If bitmapped fonts are installed in another folder, they will not appear in your application.*
- 1 Insert the bitmapped screen fonts disk into the Macintosh computer's disk drive.**
- 2 If you are using System 6, install the fonts using normal Macintosh procedures for Font/DA Mover.**

If you are using System 7, select the fonts from the floppy disk and drag the fonts to the Fonts folder in the System folder.
- 3 Restart your Macintosh.**

Add the Printer Description File

Most Macintosh applications obtain font information from the printer. But applications such as Adobe Separator, QuarkXPress, and Aldus PageMaker, refer to the font list of the PPD file for font information.

- 1 Replace the APD and PPD files you installed when you purchased your QMS printer with the Kanji versions.**

Follow the instructions in your application documentation. The APD and PPD files that you need to use are on the PS Executive Series Utilities disk (Japanese version) that comes with this option kit.

Download the JFontPrep File

When downloading Adobe Type Library or Morisawa Type Library Kanji fonts, you need to also download the JFontPrep file.

- » **Note:** *This file is on the PS Executive Series Utilities disk (Japanese version) included in this option kit. You must download this file before you download any Kanji fonts to your print system.*

- 1 Access the Administration/Emulation/PostScript/Emulation Level menu and select Level 2.**

See chapter 4, "Printer Configuration," in the Reference manual for detailed printer configuration information.

- 2 Open PS Exec on your computer.**

- 3 From the File menu, choose Download PS File.**

- 4 Choose JFontPrep, click Send, and then download to the printer.**

- » **Note:** *The JFontPrep PostScript file is automatically downloaded to RAM. The Japanese PostScript fonts are downloaded to disk.*

- 5 When the Status window is gone, close PS Exec.**

- 6 Download the font(s).**

See the *Adobe Type Library User's Guide* for instructions on downloading fonts.

-
- ▲ **Caution:** *Do not select Clear Font Cache in the disk menu even though the Adobe/Morisawa Type Library User's Guide states that you should select this option, it could cause your printer to lock up.*
-

- 7 After downloading the fonts, if necessary, reset the Administration/Emulation/PostScript Emulation Level menu to its initial value.**

- 8 Turn the printer off and then back on again.**

If You Are Using Windows

Make sure that you have the correct version of the system software for running Kanji. See the “Software Requirements” on page 4-10 for the correct system software version numbers. Install the QMS Windows driver using the instructions given in the README.TXT file on the Software Utilities CD-ROM.

If You Are Using DOS

To run a Japanese application in the DOS environment, you need MS-DOS/V 5.0J. Most major Japanese word processing applications are available for the DOS/V environment.

- » **Note:** *Not all Japanese applications for the DOS/V environment support PostScript printing.*

Kanji Font Internal IDE Hard Disk

The preformatted QMS Kanji font internal IDE hard disk contains Kanji fonts and other files. These fonts can be printed at a variety of point sizes and in different styles and resolutions.

After the Kanji hard disk is installed in your QMS 2425/2425 *TURBO*, the Kanji fonts are available for use just as if they were resident in the printer.

What's in the Kit?

- Internal hard disk preformatted with the following 6 Kanji fonts:

This font...	Is licensed to QMS by...
Gothic BBB-Medium Ryumin Light-KL	Morisawa and Company, Ltd.

This font...	Is licensed to QMS by...
Gothic Bold Gothic Heavy Mincho Medium Mincho Heavy	Type Bank

- IDE hard disk bracket
- 3 screws

If anything is missing, call your QMS vendor. See appendix A, “QMS Customer Support,” for locations and telephone numbers.

Hardware Requirements

- A Macintosh, IBM PC, or compatible computer

Software Requirements

- An application (such as a word processing or desktop publish package) that supports both the Kanji fonts and PostScript printing.
- If you're using a Macintosh, the following Macintosh system software:
 - KanjiTalk, version J1-6.0.7 or later
 - System File, version J1-6.0.7 or later
 - Laser Prep, version J1-6.0.1 or later
 - LaserWriter, version J1-6.0.2 or later
 - Print Monitor, version J1-1.3 or later
 - MultiFinder, version J1-6.1.7 or later
- If you're using a PC, the following system software:
 - If you're using Windows, version 3.1J or later
 - If you're using DOS, version 5.0J or later

Installing a Kanji Font Internal IDE Hard Disk

-
- ▲ **Caution:** *The Kanji fonts are factory installed on a formatted hard disk. DO NOT reformat or initialize the QMS Kanji internal hard disk. Reformatting erases all data, fonts, and files on the disk. **Your warranty does not cover this error.***
-

The Kanji font internal IDE hard disk is installed on the controller board in the same way any internal hard disk is installed.

- » *Note: If you already have an internal hard disk installed, you must remove it before you can install the Kanji disk.*

Configuring the Printer for Kanji

See chapter 5, “Storage and Scanning Devices,” for information on how to configure your printer’s memory when using an internal hard disk.

Accessing the Kanji Fonts

See “Accessing the Kanji Fonts” on page 13. for information.

Forms Printing

The QMS QFORM option allows you to use existing lineprinter and forms printing applications on your QMS 2425/2425 *TURBO* Print System. This printer resident application gives you the ability to store PostScript forms on the printer's hard disk and fill those forms with your application's ASCII print stream. Features include the following:

- Definition of page formatting and fonts
- Duplexing with binding-margin offsets
- Two-sided forms with text fill-in on front and/or back
- "Graybar" listing formats
- Automatic page numbering
- ANSI carriage-control recognition
- Single- and multi-part forms
- Labels and multipart forms
- Logos and watermarks

Contact your QMS vendor for purchase information. See appendix A, "QMS Customer Support" for sales and support information.

ImageServer

- » **Note:** *This option requires a hard disk and 12 MB RAM. See “Single In-Line Memory Modules” in chapter 2 of this manual, if necessary, for information on installing additional memory.*

The QMS ImageServer option includes products that raise image printing performance and enhance print functionality to a level comparable to that of the document imaging system as a whole. Typically, print performance in a non-ImageServer environment is relatively slow due to the nature of raster file formats and the lack of attention given to print system enabling within the imaging system.

ImageServer option products specifically address these limitations and adapt QMS printer products to the document imaging system.

Contact your QMS vendor for purchase information. See appendix A, “QMS Customer Support” for contact information.



5

Storage and Scanning Devices

In This Chapter . . .

- “Internal Hard Disks” on page 5-2
- “External Hard Disks” on page 5-9
- “CrownCopy” on page 5-13

Introduction

This chapter provides information on both the hard disk and Crown-Copy scanner options which are available for purchase from your QMS vendor.

About Hard Disks

Hard disks provide true virtual memory as well as storage for character bitmaps, downloaded outline fonts, and other files.

Internal Hard Disks

If you purchased your printer with an internal hard disk, to take full advantage of the disk, you should turn on the printer's disk swapping option.

Use the printer control panel to do this. (Information on using the control panel is in chapter 4, "Printer Configuration," in the *Reference* guide. Choose Yes in the Administration/Memory/Enable Disk Swap menu.) Disk swapping allows the printer to use the hard disk to supplement RAM when necessary.

- » **Note:** *The printer needs to be turned off and on again to make this change take effect.*

While you're making changes in the configuration menu, you may also want to turn on the printer's page recovery option. (Choose On in the Administration/Engine/Page Recovery menu.) Page Recovery allows the printer to automatically track and reprint jammed pages so you don't have to resend jobs after clearing a jam.

What's in the Kit?


The IDE hard disk assembly kit includes the following:

- IDE hard disk with ribbon cable attached
- IDE hard disk bracket
- 4 screws

Installing an Internal IDE Hard Disk

Only one internal IDE hard disk is supported. However, you can add up to three external SCSI hard disks to the printer.

» **Note:** *A Phillips screwdriver is needed for this procedure.*

 **WARNING!** *Turn off the printer and unplug the power cord before taking the cover off the printer.*

ACHTUNG! *Bitte schalten Sie den Drucker aus und ziehen Sie den Netzstecker heraus bevor Sie die Druckerabdeckung öffnen.*

▲ **Caution:** *This hardware change automatically restores defaults. If your memory settings are specific for your environment, print an advanced status page before making this hardware change, so you can recover these memory settings.*

It's very important to protect the printer controller board and other circuit boards such as SIMM boards, the Multi-Res daughterboard, and so on from electrostatic damage while performing this task. Review the anti-static guidelines in chapter 2, "Memory and System Software," the "Removing the Controller Board" section.

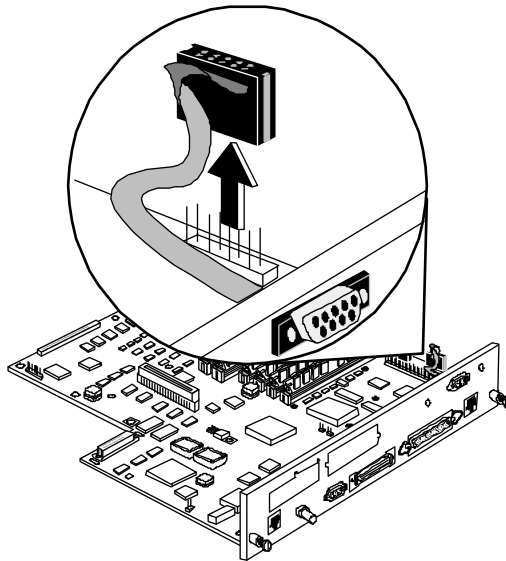
- 1 Turn off the printer, and then disconnect the power cord and all interface cables from the printer.**
- 2 Access the printer controller board.**

Use the instructions in chapter 2, "Memory and System Software," the "Removing the Controller Board" section.

About Hard Disks

- 3 Position the controller board so that you're looking at the front of the interface panel.
- 4 Disconnect the serial cable, if previously installed.

Gently, pull straight up on the serial cable connectors to remove it from the serial connector pins.

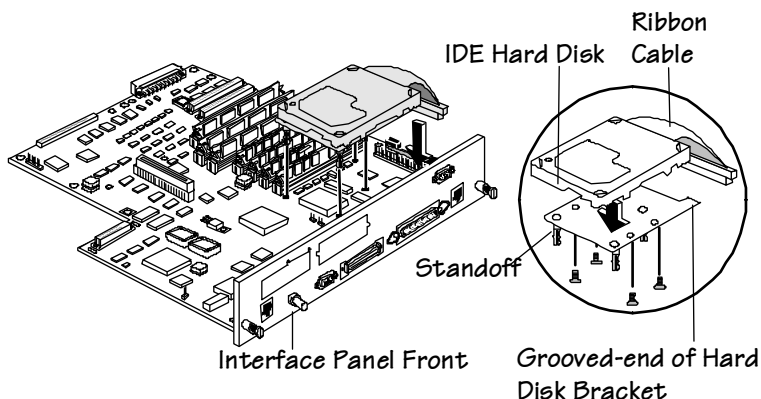


Caution: *Do not push or pull from the ribbon cable; use the cable connector.*

5 Attach the IDE hard disk to the hard disk bracket.

Attach the IDE hard disk to the bracket with the grooved-end of the bracket facing the ribbon cable.

The screw holes in the bottom of the hard disk should match up with the holes on the hard disk bracket. Fasten the hard disk to the bracket with the four screws provided in the kit.



6 Position the hard disk so that the four standoffs face the controller board, the colored stripe on the ribbon cable faces away from you, and the connector is down.

7 Insert ribbon cable connector pin 1 (colored stripe side of cable) in hard disk connector pin 1, ensuring that all pins are correctly aligned.

▲ **Caution:** Make sure that the ribbon cable connector and the controller board connector pins are properly aligned. Damage to the controller board could result if the pins are misaligned.

8 Press down gently but firmly on the cable connector to seat it on all the pins.

▲ **Caution:** Do not push or pull from the ribbon cable; use the cable connector.

9 Align the standoffs with the holes on the controller board.


So that you don't stress the board, press one corner at a time to secure the disk to the controller board.

10 Reconnect the serial cable, if previously installed.


See chapter 3, the "Installing an Optional Serial Interface" section, and use the "Attach the Serial Interface" step.

Removing an Internal IDE Hard Disk

Only one internal IDE hard disk is supported. However, you can add up to three external SCSI hard disks to the printer.

 **WARNING!** Turn off the printer and unplug the power cord before taking the cover off the printer.

ACHTUNG! Bitte schalten Sie den Drucker aus und ziehen Sie den Netzstecker heraus bevor Sie die Druckerabdeckung öffnen.

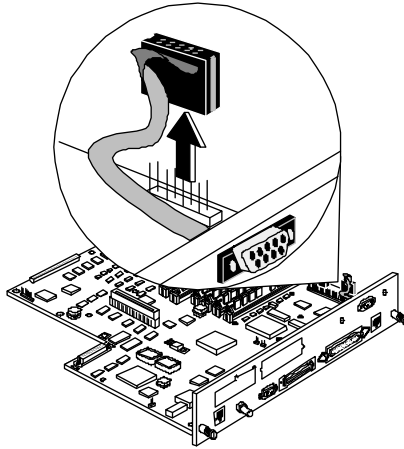
 **Caution:** This hardware change automatically restores defaults. If your memory settings are specific for your environment, print an advanced status page before making this hardware change, so you can recover these memory settings.

It's very important to protect the printer controller board and other circuit boards such as SIMM boards, the Multi-Res daughterboard, and so on from electrostatic damage while performing this task. Review the anti-static guidelines in "chapter 2, "Memory and System Software," the "Removing the Controller Board" section of this manual.

» **Note:** *A Phillips screwdriver is needed for this procedure.*

- 1 Position the controller board so that you're looking at the front of the interface panel.**
- 2 Disconnect the serial cable, if previously installed.**

Gently, pull straight up on the serial cable connectors to remove it from the serial connector pins.

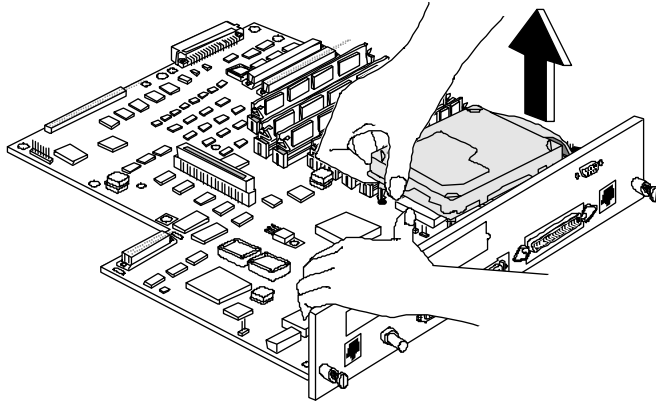


▲ **Caution:** *Do not push or pull from the ribbon cable; use the cable connector.*

About Hard Disks

3 Remove the hard disk.

Place your left hand on the metal interface plate, place the thumb on your right hand on top of the hard disk, place the other fingers on your right hand underneath the corner of the hard disk, and then pull up very firmly on the hard disk. The disk is firmly seated, so it may take several tries to remove it.



4 Pull the ribbon cable connector away from the connector pins.



Caution: Do not push or pull from the ribbon cable; use the cable connector.

5 Attach another hard disk, if necessary.

6 Replace the controller board.

Use the instructions in chapter 2, "Memory," the "Reinstalling the Controller Board" section.

7 Reconnect all interface cables and the power cord, and then turn on the printer.

External Hard Disks

Your printer supports up to 3 external SCSI hard disks. For information on installing your external SCSI hard disk, see the documentation that comes with your hard disk.

See FAQ 7181 for a list of each approved hard disk, its manufacturers and part numbers, and the QMS products on which it can be used. You can access QMS FAQs through the Internet at <http://www.qms.com/support/supportbase/>, or through Q-FAX. (See appendix A, "QMS Customer Support," to find out how to access Q-FAX documents).

- » **Note:** *FAQ numbers may be subject to change, so you may want to obtain a directory of Q-FAX documents before requesting a specific document.*

Identifying Hard Disks

The hard disks are identified by their device numbers. If an optional internal hard disk is attached it has a device number of DSK7. If optional external hard disks are attached to the printer, their device numbers can range from DSK0 this to DSK6. (DSK5, which translates to SCSI ID 5, is reserved for the scanner). Device numbers of external disks can be set on the back of the hard disk by the installer.

- » **Note:** *If the internal hard disk is removed or an external hard disk is not turned on, the printer does not reset non-volatile RAM to the factory defaults.*

-
- ▲ **Caution:** *If you connect to this printer an external hard disk you previously used with an earlier QMS Crown printer (QMS 1660E, QMS 1725E, QMS 2025, or QMS 3225), this QMS 2425/2425 TURBO Print System software release will automatically reorganize the files on the hard disk when the printer is turned back on again. (The printer release number is listed on both the start-up and the status page.) Once this reorganization is done, the files on the hard disk can no longer be accessed if the hard disk is reattached to an earlier QMS Crown printer.*

This reorganization process takes time. If, when you first turn the printer on after attaching a previously used hard disk, it does not come on line immediately, be patient. Interrupting the reorganization process could cause all files on the hard disk to be lost.

Turning on an External Hard Disk

For the printer to recognize one or more external hard disks, each hard disk must be turned on before you turn on the printer. If the printer recognizes the disk(s) and the start-up page is enabled, check to ensure that `DISK ONLINE` prints on that page. If the start-up page is not enabled, print a status page and check to see if `DISK ONLINE` prints on that page. (See chapter 4, “Printer Configuration,” of the *Reference*, for information on how to print a status page.)

If `DISK ONLINE` does not print, see the *Operation* guide, chapter 6, the “External and Internal Disk Problems” section, for more information.

Properly installed disks will also appear in the “Options” section, of the start-up page (if it’s enabled) and on the status page as `%%diskx%` (where *x* is a 7 for an internal IDE hard disk and 0 - 6 (SCSI ID 5 is reserved for the CrownCopy scanner) for any external SCSI hard disks, depending on the SCSI ID set on the back of the hard disk.

Configuring Hard Disks

To configure the hard disk(s) you may need to either Enable Disk Swap or increase the Disk Cache size, dependent on your printer's memory. (See the following section that applies to your printer memory).

After the Administration/Memory/Enable Disk Swap or Administration/Memory/Disk Cache menu settings are reconfigured and the printer is restarted, you need to print a status page to check that the Disk Cache size is increased. (Notice that `VM remaining` memory is also increased.)

Standard Memory

If your printer has only the standard memory, then you need to enable disk swapping. See chapter 4, "Printer Configuration," in the *Reference manual* for information on how to enable this option through the Administration/Memory/Enable Disk Swap menu

`DISK ONLINE` prints on the status page if the printer recognizes the disk(s). (See chapter 4, "Printer Configuration," in the *Reference manual*, for information on how to print a status page.)

Additional Memory

If your printer has additional memory, then you only need to increase the Disk Cache size to 256 KB. See chapter 4, "Printer Configuration," in the *Reference manual*, for more information on increasing the Disk Cache client's size.

Using the Disk Operations Menu

The Administration/Disk Operations menu contains all of the options you need to format a hard disk.

Error Messages

These messages may appear while you are using the Disk Operations menu.

Message	Meaning	Action
FORMAT FAILED	The hard disk cannot be used.	Press the Menu key to remove the message, and contact your QMS vendor.
WRITE ERROR	The hard disk encountered a write error, or there is no room for the data on the hard disk or in RAM.	Press the Menu key to remove the message, and restart the operation from the beginning.

Formatting a Hard Disk

After you have accessed the Administration/Disk Operations menu, press the control panel keys in the order shown in the following table. The printer responds by displaying a status message in the message window (DSK refers to the hard disk, # is the hard disk number).

- » **Note:** *You may need to press the Next key one or more times to advance through the list of selections or options.*

Press this key ...	to ...	and the message window reads ...
Select	Access the Disk Operations/Format Disk menu	FORMAT DISK
Select	Access the Format Disk/Dsk#: menu.	DSK #:
Next or Previous	Advance through the list of attached disks.	DSK #:
Select	Select the disk and display a format confirmation message.	ARE YOU SURE?
Select	Begin the formatting process. While the system reboots, the hard disk is being formatted.	FORMATTING. . .
	Notify you when the formatting process is complete. The printer then powers up, and a start-up page prints (if enabled).	FORMAT COMPLETE

CrownCopy

The QMS CrownCopy option consists of an image scanner and software. This feature increases the functionality of your printer, transforming it into a copier as well as a printer. The functionality of CrownCopy is already built into your printer, so using CrownCopy is as simple as making the connections and pushing the Copy button.

The scanner provides a standard flat bed for copying single sheets or pages of a bound book while the automatic document feeder (ADF) provides automatic copying of up to 50 sheets.

Print System Requirements

To use CrownCopy, your QMS 2425/2425 *TURBO* Print System must have the following:

- At least 24 MB RAM (however, for best performance 40 MB is recommended)
 - An internal IDE hard disk (recommended)—80 MB or larger with at least 15 MB of free space
- » **Note:** *The printer's hard disk is used for temporary storage of the scanned image. There should be enough extra room on the hard disk to store the largest-size scanned image. The size of this depends on the paper size and the resolution setting on the printer.*

Unpacking CrownCopy

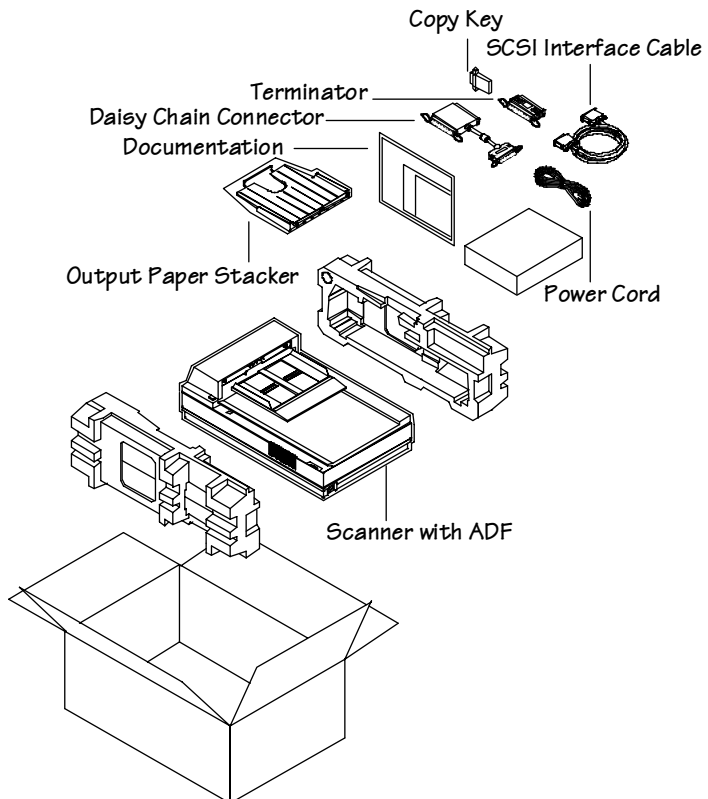
The scanner kit contains the following:

- QMS CrownCopy Copy Scanner
- Power cord (110-volt)
- SCSI terminator and interface cable
- Daisy-chain connector

Unpacking CrownCopy

- Output paper stacker
- Packing list and instruction sheet
- Warranty and registration card
- Copy key
- Instruction sticker
- Envelope containing Fujitsu Twain driver software

» **Note:** *The Twain driver software is for using CrownCopy as a scanner connected to your computer system. QMS does not support this configuration, and any damage which may occur as a result of using CrownCopy as a host-connected scanner can void your QMS warranty.*



Installing CrownCopy

-
- ▲ **Caution:** Before installing CrownCopy on your printer, you should turn on the printer, wait for *IDLE* to appear in the message window, and then print an advanced status page. (See the “Working With Status Pages” section of the Reference guide for advanced status page information.)
-

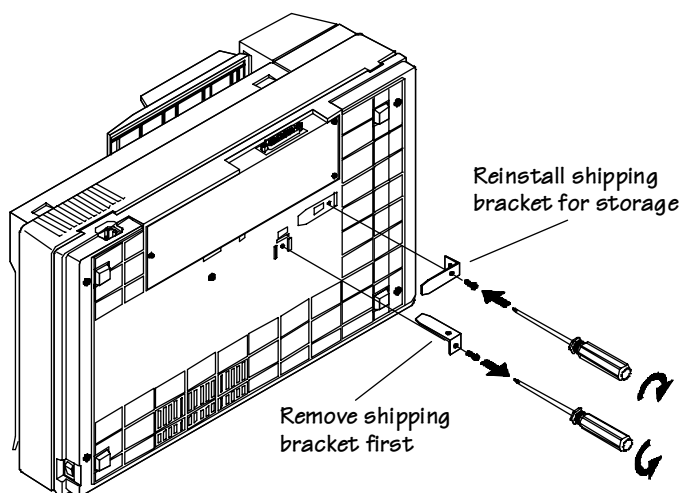
1 Unpack the scanner.

Remove all packing material and shipping tape. Store the packing material in a safe place in case you need to move the unit.

2 Place the scanner on a flat work surface.

3 Remove the shipping bracket.

The shipping bracket stabilizes the carrier unit during transport.



- a Lift the scanner from the rear side.

-
- ▲ **Caution:** Do not turn the scanner upside down when removing the shipping bracket.
-

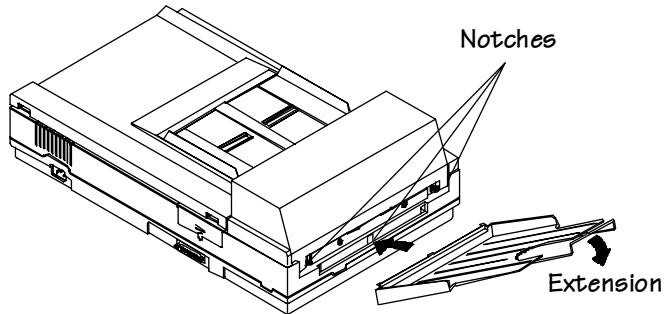
- b Using a Phillips screwdriver, remove the screw holding the shipping bracket in the "Shipping Position."
- c Remove the shipping bracket.
- d Insert the shipping bracket in the "Use" position, with the shorter end inserted into the scanner, and fasten it with the same screw you removed in the step b.
- e Place the scanner on its bottom again.



Caution: *To avoid scanner damage, place the shipping bracket in the "Shipping Position" whenever you ship the scanner.*

4 Attach the output paper stacker.

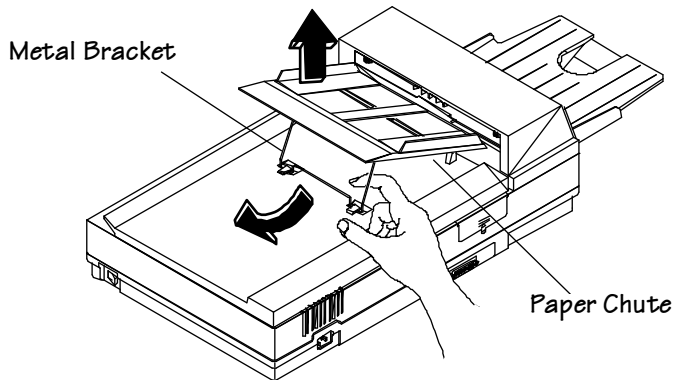
- a Slide the three notches into the three openings below the paper exit.
- b Release the stacker gently, making sure that it is firmly attached.
- c Pull the paper stacker extension out as far as possible.



5 Attach the automatic document feeder (ADF).

- a Raise the unattached end of the input paper chute to about 45°.
- b Pull the metal bracket down from the under side of the paper chute.
- c Slide the metal bracket into the grips on the document cover.

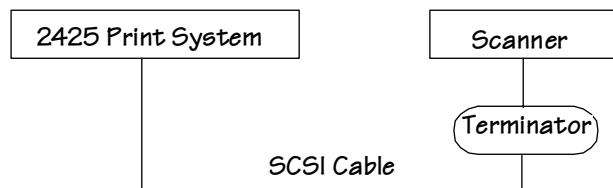
- d Pull up the input paper chute extension.



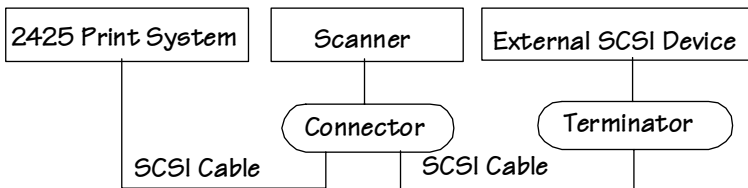
- 6 Turn off both the scanner and the printer, if necessary.**
- 7 Plug the power cord into the scanner and a power source.**
- 8 Set the SCSI ID setting.**

Using a small, flat-head screwdriver, set the rotary switch on the back of the scanner to SCSI ID 5.

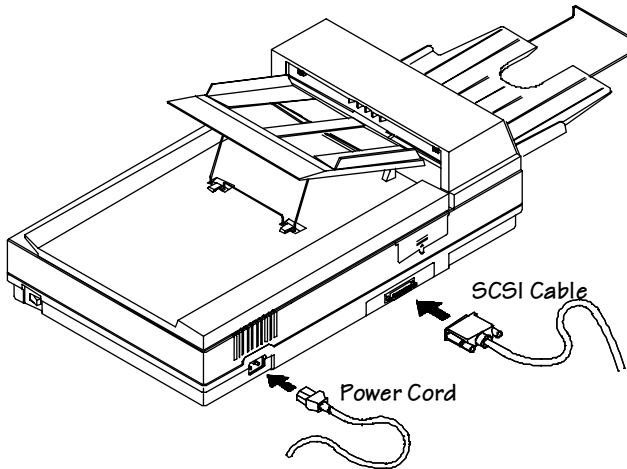
- 9 Connect the scanner and the printer to the SCSI bus in either of the following ways, based on your equipment setup.**
 - Connect only the printer and the scanner.
 - a Plug in the male side of the SCSI terminator to the scanner's SCSI connector.
 - b Attach one end of the SCSI cable into the terminator and the other end of the cable to the printer.



- To connect the printer and scanner, and daisy chain other external SCSI devices:
 - a Plug the daisy chain connector into the scanner.
 - b Attach one end of the SCSI cable to the daisy chain connector and the other end of the cable to the printer.
 - c Attach one end of another SCSI cable to the daisy chain connector.
 - d Attach the terminator (if necessary) to the external SCSI device (for example, a disk drive) and plug the other end of the SCSI cable into the terminator.

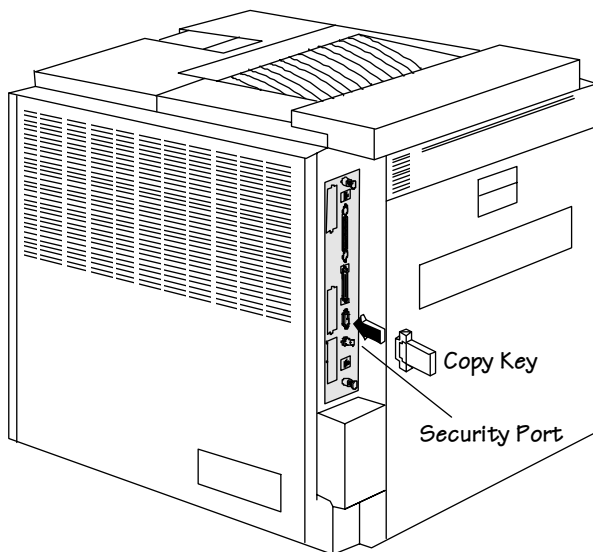


10 Attach power cords to the printer and scanner.



11 Insert the Copy Key into the security port at the left rear of the printer.

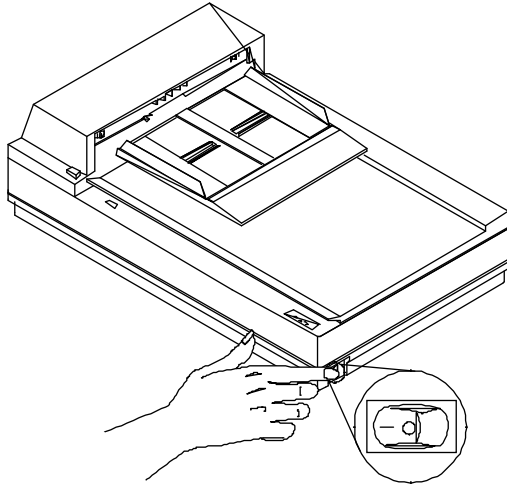
You can't access the CrownCopy menu unless the Copy Key is inserted. It can be inserted with the printer power either on or off.



Installing CrownCopy

- 12 Turn on the scanner, wait 5 seconds, and then turn on the printer.

When the Power and Ready LEDs light, the scanner is ready to use.



- 13 Access the CrownCopy menu on the printer to configure the copier.
 - » **Note:** For information on adjusting copy settings, see “CrownCopy Configuration” on page 5-28.
- 14 CrownCopy is ready to use.

Making Copies

Making Copies Manually

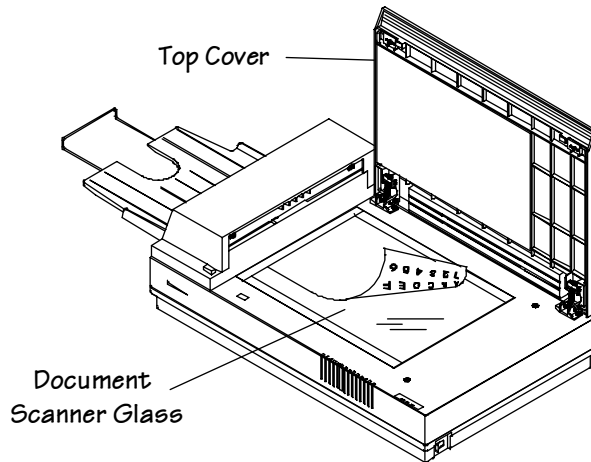
- 1 If necessary, turn on the scanner, wait 5 seconds, and then turn on the printer.

The power switch is located on the right side of the image scanner.

- 2 When the scanner's Power and Ready LEDs are on, open the scanner cover and put a document face down, with the top to the left, on the scanner glass.

If necessary, flatten out any curls or folds in the document.

The left side and top edge of the document should be aligned with the reference frame in the upper-left corner of the scanner glass.



Making Copies

- 3 **Close the document cover carefully, making sure that the paper does not move and is flat against the glass.**

» **Note:** *If you're copying a page from a book rather than a single sheet, you will not be able to close the document cover completely. The rear side of the document cover will lift up to accommodate books. However, you should hold the book firmly against the scanner glass. The part of the book in close contact with the glass will copy clearly, but any part not in close contact with the glass may be distorted or unclear.*

- 4 **Make sure the printer's Online light is on.**

If the Online light is not on, press the Online key to put the printer on line.

- 5 **Press the printer's Copy key.**

In the printer's message window you should see

COPIER MENU
COPY

- 6 **Press the Select key and you should see**

COPY
READY TO COPY

- 7 **Press the Select key again, and the scanner should begin copying your document.**

▲ **Caution:** *Do not press on or open the scanner cover during the copy process.*

- 8 **When the copying is complete, remove the document from the scanner glass, and close the scanner cover.**

Using the Automatic Document Feeder (ADF)

▲ **Caution:** *If you plan to collate, duplex, and/or staple while scanning multiple sheets from the ADF, refer to "Memory Configuration" on page 5-26.*

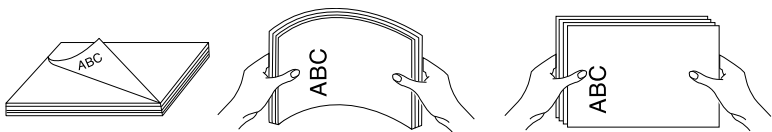
- 1 If necessary, turn on the scanner and then the printer.**

The power switch is located on the right side of the image scanner.

- 2 Make sure that the scanner's Power and Ready LEDs are lighted and that no documents are on the scanner glass.**
- 3 Raise the unattached end of the input paper chute to about 45°.**
- 4 Pull the metal bracket down from the under side of the paper chute.**
- 5 Slide the metal bracket into the grips on the document cover.**
- 6 Pull up the input paper chute extension.**
- 7 Angle the sheets of the document to be copied.**

This helps guard against paper feed errors.

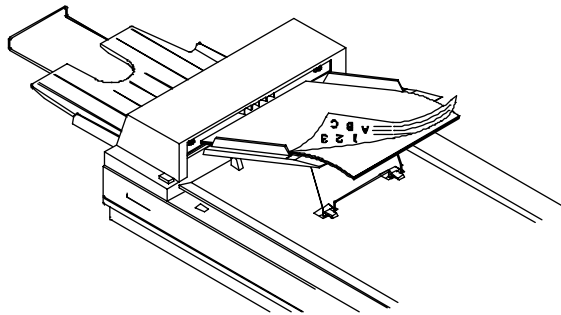
- Place the document face down.
- Lift approximately 0.25"/4 mm or less of the sheets with both hands.
- Hold the sheets tightly with your left hand, and bend them as illustrated.
- Grip the sheets tightly with your right hand, loosen the grip of your left hand, and then straighten the sheets as illustrated.
- Repeat steps b-d for the entire document.



Making Copies

- 8 Move the paper feed guides on the ADF so that they are approximately 0.25"/5 mm wider than the document.
- 9 Place the document to be copied face down in the input paper chute, putting the ends of the bottom 2 or 3 sheets into the automatic feeder.

Slide the stack forward until it rests against the ADF sensor. The sensor is a small plastic arm inside the ADF.



The ADF can be loaded with up to 50 sheets of A4-, legal-, or letter-size paper.



Caution: Do not feed any of the following through the ADF:

- Paper with clips or staples
 - Paper with wet ink
 - Paper with folds, tears, notches, or curls
 - Paper with an inconsistent thickness, such as envelopes
 - Very thin paper
 - Paper not square or rectangular in shape
 - Paper smaller than A5 size or larger than A4 width
 - Tracing, coating, carbonless, or photographic paper
 - Items other than paper, such as transparencies, metal sheets, or cloth
 - Important documents that cannot be damaged
-

- 10 Close the paper guides until they touch the sides of the paper stack.

» **Note:** *Skewing may occur if a gap exists between the guides and the document.*

- 11 Make sure the printer's Online light is on, and press the printer's Copy key.

If the Online light is not on, press the Online key to put the printer on line.

▲ **Caution:** *Do not press on or open the scanner cover during the copy process.*

- 12 In the printer's message window you should see

COPIER MENU
COPY

- 13 Press the Select key and you should see

COPY
READY TO COPY

- 14 Press the Select key again and the scanner should begin copying your document.

- 15 When the copying is complete, remove the document from the scanner glass or from the output paper stacker.

Memory Configuration

This section identifies the amount of printer memory (for print systems without a hard disk) or Display List memory (for print systems with a hard disk) that you need to collate, duplex, and/or staple while scanning multiple sheets from the scanner's automatic document feeder (ADF).

QMS 2425 TURBO without a Hard Disk

Without Stackler

Input Bin ¹	Output Bin ²	Collation	Duplexing ³	Minimum Printer RAM
Any	Any	Off	Off	40 MB
Any	Any		On/Tumble	64 MB
Any	Any	On	Off	88 MB
Any	Any		On/Tumble	96 MB

1 All standard input trays/cassettes/bins and optional input paper deck.

2 All standard output trays.

3 Optional duplexer required.

With Stackler

Input Bin ¹	Output Bin ²	Collation	Duplexing ³	Stapling ⁴	Minimum Printer RAM
Any	Any	Off	Off	Off	40 MB
Any	Any		On/Tumble	Off	64 MB
Any	Any	On	Off	Off	88 MB
Any	Any			On	88 MB
Any	Any		On/Tumble	Off	96 MB
Any	Any			On	96 MB

1 All standard input trays/cassettes/bins and optional input paper deck.

2 All standard output trays and optional Stackler.

3 Optional duplexer required.

4 Available only with collation on; any staple position (Back Corner, Center, Front Corner).

QMS 2425 TURBO with a Hard Disk, 2425 TURBO EX, 2425 TURBO ImageServer, and 2425 TURBO Multi-PACS

-
- ▲ **Caution:** *The printer must have at least 24 MB of memory to use the CrownCopy option. For best performance, however, at least 40 MB is recommended.*
-

- 1 **Enable disk swapping (Administration/Memory/Enable Disk Swap menu).**
- 2 **Increase the Display List memory by 30 MB/30,000 KB (Administration/Memory/Manual Config/K Mem Display menu).**

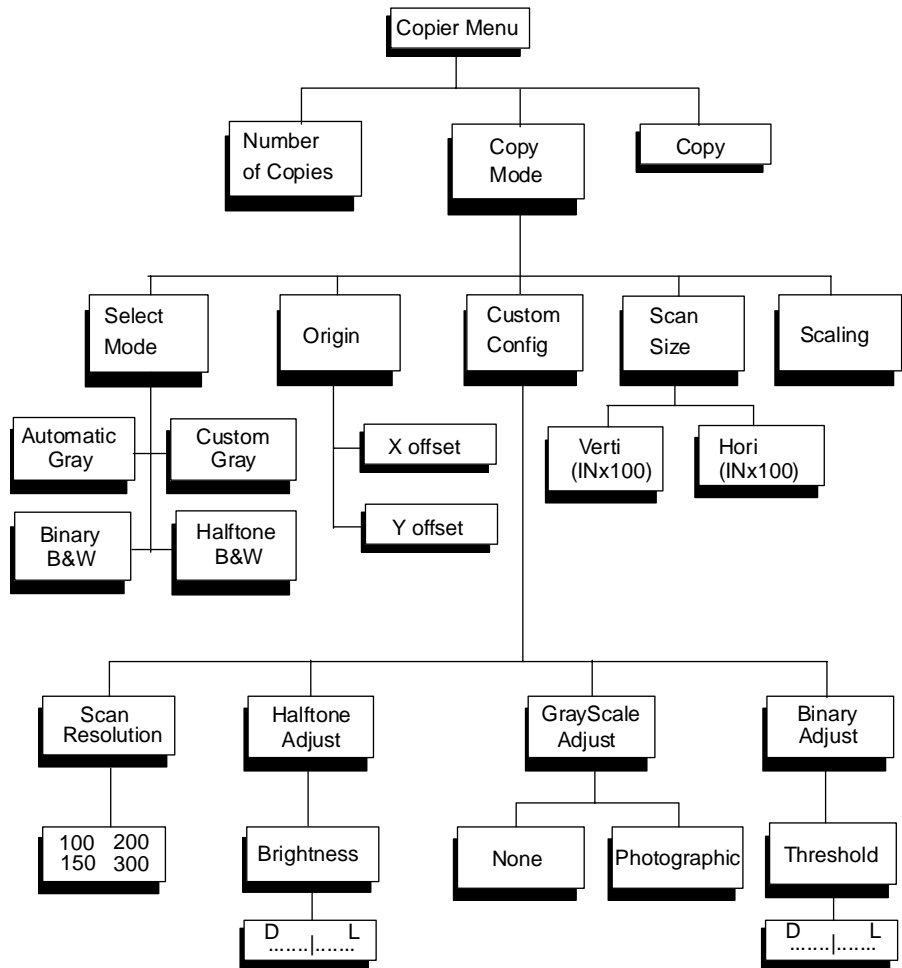
The printer automatically reboots when you press the Online key.

- 3 **Choose any other necessary options:**
 - Collation—Operator Control/Collation
 - Duplexing—Operator Control/Duplex menu
 - Number of Copies—Copier Menu/Number of Copies menu
 - Stapling—Operator Control/Output Finishing/Staple/Offset menu
- 4 **Begin the copying/scanning procedure (Copy key).**
- 5 **If the printed output is not correctly collated, duplexed, and/or stapled, increase the Display List memory in 10 MB/10,000 KB increments until the output is correctly printed.**

CrownCopy Configuration

The CrownCopy Menu

When the printer is on line, press the Copy key once to enter the Copier menu. The Copy key must be inserted before you can access the menu.



Copy Quality Decisions

The quality of your copied image depends on several factors. You must consider these factors when judging the output quality of your copied image. The quality of the copy can be adjusted by settings on the CrownCopy menu. The factors involved in copy quality are

- The original's print quality
- The type of original—text, images, or both
- The size of the original
- The speed of your copy output

After considering these factors you may want to experiment with different settings to see which setting gives you the best quality output at the best speed. Here are some sample situations and menu settings that can be used to improve output quality.

- You're copying a newsletter with text and halftone photos. Use Custom Gray in Photographic mode for best quality. You may get faster output using Halftone B/W at a higher resolution.
- You're copying original forms containing only text. Use Binary B/W mode for best quality for text only. You may experiment with Threshold and Scan Resolution to increase the quality and maintain the copy speed.
- You're copying a photograph to distribute around the office. Use Custom Gray with GrayScale Adjust in photographic mode. You may improve the quality by adjusting scan resolution but you might slow it down. You can increase speed slightly by using adjusting Scan Size to crop the image.
- You're copying a document that has text, line drawings with some grayscale details and you need the copies in a hurry. Use Halftone B/W and adjust Brightness and Scan Resolution to get the best output at a faster speed than Grayscale Mode.

Making Changes to the CrownCopy Menu

To access the Copier Menu, press the Copy key once. Then use the Next or Previous key to scroll across the top level menus (Copy, Number of Copies, and Copy Mode). To enter a lower-level menu or select a menu option, press the Select key. Use the Menu key to back out of the menu and return to **IDLE** after you have made your selections or after you have completed copying.

- » **Note:** *When you press the Copy key, you gain access to the CrownCopy menu and the copy option. To return the printer to normal operation you can exit this menu by pressing the Menu key, leaving the copier idle for 60 seconds, pressing the On Line key, or going back to set a number of copies. Error messages that normally occur (such as jams) will not appear on the display until you exit the CrownCopy menu. Copy menu changes stay in effect only for the next scan executed.*

Menu Settings

Copy options are accessed through the printer's control panel. See "The CrownCopy Menu" on page 5-28 for a diagram of the Copy menu. See chapter 4, "Printer Configuration," of the *Reference* for more information on using the configuration menu.

-
- ▲ **Caution:** *Each configuration change you make affects the quality of your printed output significantly. Therefore, we recommend changing **only one setting** at a time, printing a test print, and then determining if further configuration changes are necessary.*
-

Copy

Menu	Copier Menu/Copy
Purpose	Use this option to make a copy.
Choices	Copy When the printer is on line, press the Copy key to access the copy menu.
Notes	The default scan resolution is 200 dpi. See "Scan Resolution" on page 5-34 for information on increasing scan resolution.

Number of Copies

Menu	Copier Menu/Number of Copies
Purpose	Use this option to set the number of copies you want.
Choices	1(the default) to 999. Each digit is set individually. Use the Select key to move the cursor to the digit you want to change, and then use the Next key to increase it or use the Previous key to decrease it. Once the number you want is set, press the Select key to save it.
Default	1
Notes	The number of copies is reset to 1 each time CrownCopy is used or whenever the Copy menu is exited. When you're printing multiple copies, subsequent copies are printed faster than the first copy.

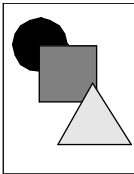
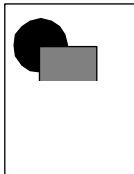
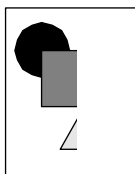
Select Mode

Menu	Copier Menu/Copy Mode/Select Mode
Purpose	Use this menu to specify what type of copy is being made so the printer can optimize for this type output.
Choices	Automatic Gray, Custom Gray, Binary B/W, Halftone B/W
Default	Automatic Gray
Notes	<p>Automatic Gray—Sets color depth to 8-bit gray and scan resolution to 200 dpi. Use this option when copying documents that are black and white or shades of gray. Best quality output for images.</p> <p>Custom Gray—Allows you to adjust grayscale values.</p> <p>» Note: In order to change the default grayscale value, you must choose the Custom Gray option in this menu.</p> <p>Binary B/W—Allows you to adjust binary thresholds. Good for text.</p> <p>Halftone B/W—Allows you to adjust the brightness of halftone images.</p>

Origin

Menu	Copier Menu/Copy Mode/Origin
Purpose	Use this menu to specify where the copy is to print on the selected media (in .01" increments).
Choices	X Offset (0—850) Y Offset (0—1100)
Default	Both choices are set to 0
Notes	This option assigns the top-left corner of the image, so printing with defaults places the image at the top leftmost corner of the page.

Scan Size

Menu	Copier Menu/Copy Mode/Scan Size		
Purpose	Select the width (horizontal size) and length (vertical size) of the image to be scanned to crop (scan only part of) an image or to reduce the copying time for images smaller than letter or A4.		
Choices	Supported Size	Horiz. (in x 100)	Vert. (in x 100)
	Letter	850	1100
	Legal	850	1400
	A5	582	827
	B5	715	1011
	A4	827	1169
Default	Horiz. (in x 100)	850 (8.5")	
	Vert. (in x 100)	1100 (11.0")	
Notes	These values must be selected if you are using the automatic document feeder (ADF) as well as the flatbed for copying.		
	The more you crop out of a scan, the less time it takes to process and print. For example, if you need to copy a photograph, you can get faster copies by placing it at the upper-right corner of the scanner bed and cropping the scan to fit the dimensions of the photograph (the scanner bed has rulers that mark inches.)		
Examples	You can also use the Scan Size menu to crop an image. Cropping is done from right and bottom sides of the page.		
	For example, look at the image shown to the right:		
	If you place this image on the scanner bed and set the Copier Menu/Copy Mode/Scan Size Vert. (in x 100) menu to 400, you'll get this:	If you place this same image on the scanner bed and set the Copier Menu/Copy Mode/Scan Size Horiz. (in x 100) menu to 550, you'll get this:	
			

Scaling

Menu	Copier Menu/Copy Mode/Scale Size%
Purpose	Use this to change the scale value from the current value in the positive or negative direction.
Choices	50-200% dpi range
Default	100 dpi
Note	Moves to the upper left of the page. The bottom of the page may be cropped. If you want to scale the copy, you must set the Scale Size % first and then press the Copy key. Press the Online key <i>only</i> after copying has finished. Pressing Online before pressing Copy does not save the scaling value.

Scan Resolution

Menu	Copier Menu/Copy Mode/Custom Config/Scan Resolution
Purpose	Use this menu to specify what resolution the scanner should use.
Choices	100, 150, 200, or 300 dpi Choose a scan resolution that is at least half of the printer resolution being used. The higher the scan resolution, the more detailed the copy output (as long as the printer resolution being used is double the scan resolution). Also, a higher scan resolution increases copying time, because of the increased amount of data that must be scanned and sent to the printer for processing. (Each time the scan resolution is doubled, the amount of information that is scanned and printed is quadrupled.)
Default	200 dpi
Note	In order to change the default scan resolution, you must choose the Custom Gray option in the Copier/Copy Mode/Select Mode menu.

Halftone Adjust/Brightness

Use this option to adjust brightness in copies.

Menu	Copier Menu/Copy Mode/Custom Config/Halftone Adjust/Brightness
Purpose	Allows you to adjust the brightness of halftone images. This setting is enabled by the Select Mode/Halftone B/W menu.
Choices	<p>15 brightness settings; each setting makes an incremental brightness change of about 2%.</p> <p>D—Moving the setting in this direction decreases brightness. It darkens the overall image making light and dark areas appear darker.</p> <p>L—Moving the setting in this direction increases brightness. It lightens the overall image making light and dark areas appear lighter.</p>
Default	The middle setting
Notes	<p>Use the Previous key to move the message-window cursor from the center towards the left to a darker (less bright) setting or use the Next key to move the cursor towards the right to a lighter (brighter) setting.</p> <p>Each increment of change in the brightness setting is significant in output quality. Therefore, we recommend that you change the setting by only one level, print out a test copy, and then determine if further modification is necessary.</p>

GrayScale Adjust

Menu	Copier Menu/Copy Mode/Custom Config/GrayScale Adjust
Purpose	Allows you to specify whether gamma correction is used.
Choices	None and Photographic
Notes	<p>None—If this is selected, then data from scanner is directly printed. This provides better quality for copying photocopies.</p> <p>Photographic—This option provides a gamma table adjustment for the image. This should be used if you are copying photographs.</p>

Binary Adjust/Threshold

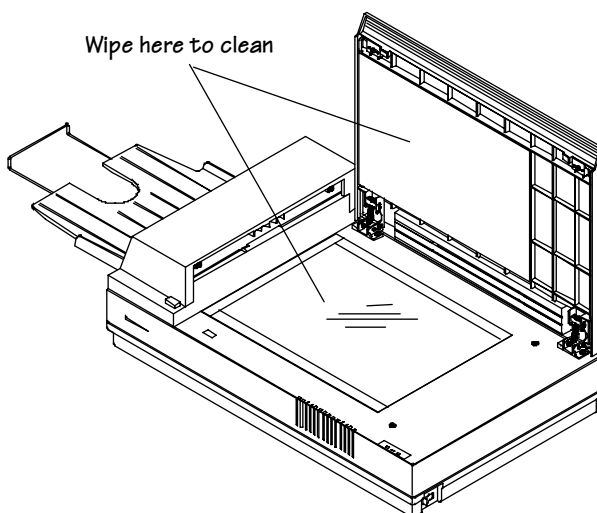
Menu	Copier Menu/Copy Mode/Custom Config/Binary Adjust/Threshold
Purpose	Allows you to adjust the brightness for Binary B/W mode.
Choices	There are 15 levels of threshold available. Each level changes the threshold slightly.
Notes	<p>Use the Previous key to move the message-window cursor from the center (the default position) towards the left to a Darker (less bright) setting, or use the Next key to move the cursor towards the right to a Lighter (brighter) setting. Increasing the threshold makes light and dark areas in the halftone appear lighter, while decreasing the threshold makes light and dark areas appear darker.</p> <p>Each increment of change is significant in output quality. Therefore, we recommend that you change the setting by only one level, print out a test copy, and then determine if further modification to the contrast is necessary.</p>

Maintenance

Cleaning the Scanner

Cleaning the Document Cover and Glass

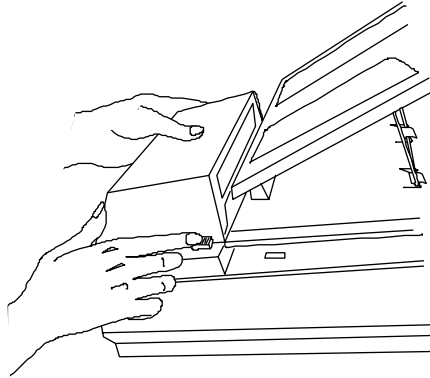
Use a clean, soft cloth, moistened with a non-corrosion solvent (like alcohol, purity above 99.5%) to wipe the document cover and flat-bed document glass.



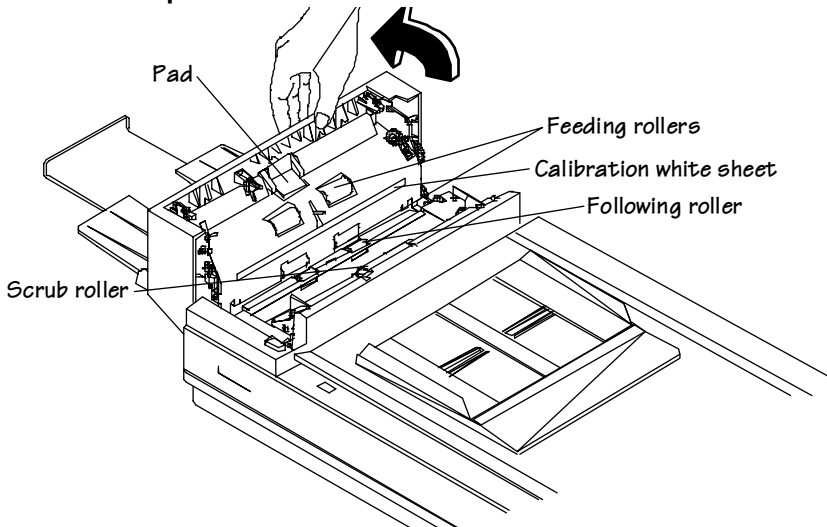
Cleaning the Automatic Document Feeder

Clean the ADF when documents do not feed smoothly, several documents feed at once, or the copying result is poor.

- 1 Push the ADF cover release button, and open the ADF module.



- 2 Use a clean, soft cloth, moistened with non-corrosion solvent (like alcohol, purity above 99.5%) to wipe only the labelled parts.



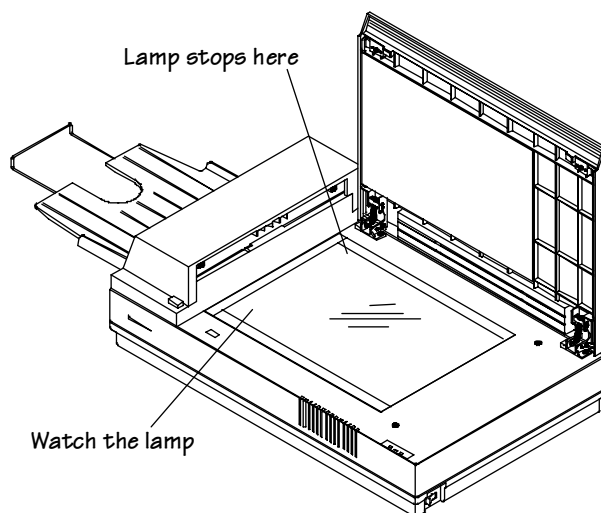
- 3 Push the ADF module securely back into place.

Replacing the Lamp

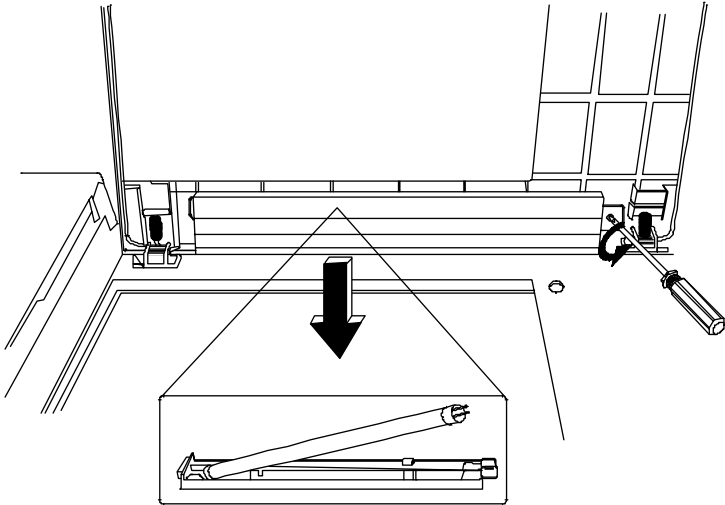
When the lamp burns out, or when it gets too dark from age, use the following instructions to replace it.

Removing the Old Lamp

- 1 If necessary, turn off the scanner.
- 2 Raise the document cover.
- 3 Turn on the scanner.
- 4 Watch the lamp. When it is positioned at the dot between the "1" and the "2," turn off the scanner again. This should take about 15 seconds for the lamp to move to this position.

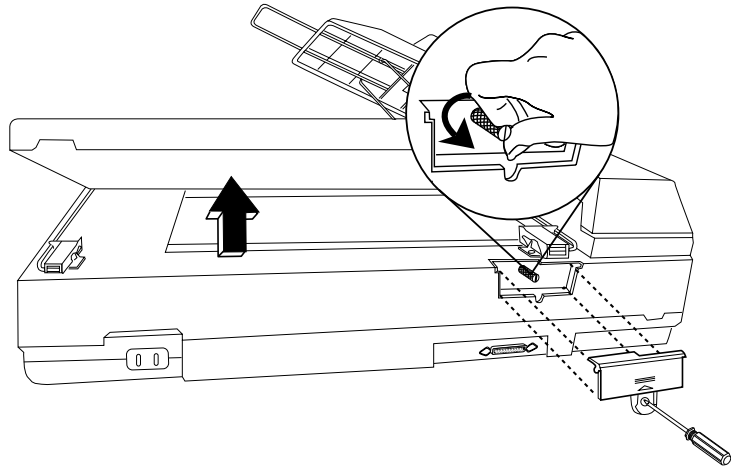


- 5 Using a Phillips screwdriver, remove the screw on the bottom right of the document cover.



- 6 Pull the spare lamp holder to the right and then towards you.
- 7 Remove the new lamp.
- 8 Replace the spare lamp holder and fasten with the screw that you removed.
- 9 Close the document cover.
- 10 Turn the scanner around to access the back of the unit.
- 11 Use a Phillips screwdriver to remove the screw on the rear of the scanner.

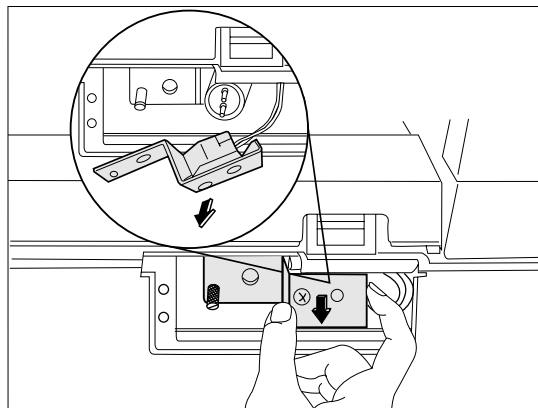
- 12 Lift the rear side of the document cover, and remove the plastic plate located above the signal connector.



- 13 Turn the knurled thumbscrew counterclockwise to remove it from the scanner.

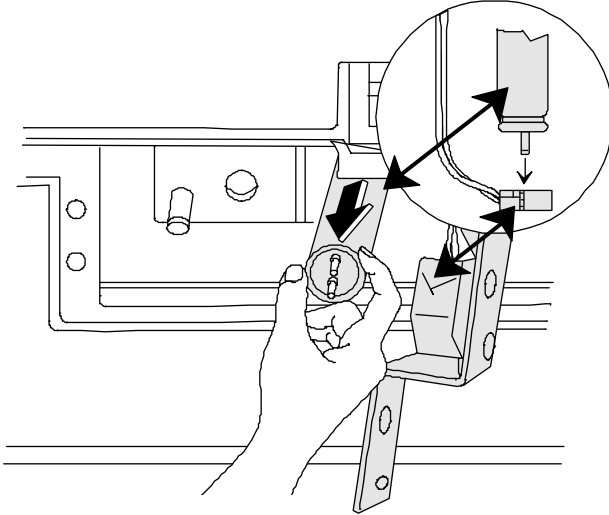
▲ **Caution:** *Do not remove the Phillips screw on the metal plate. The screw can easily fall into the scanner and cause damage.*

- 14 Remove the metal plate.



15 Remove the lamp from the scanner by pulling it straight out.

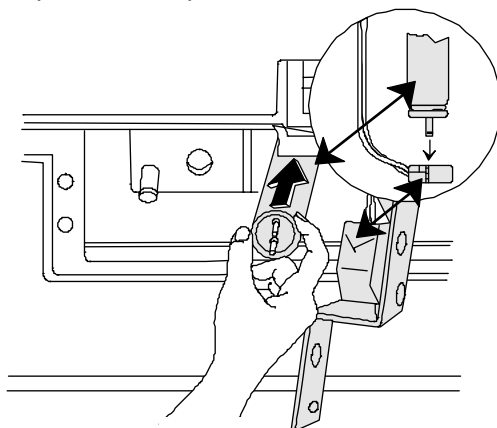
If the lamp is difficult to remove, use pliers.



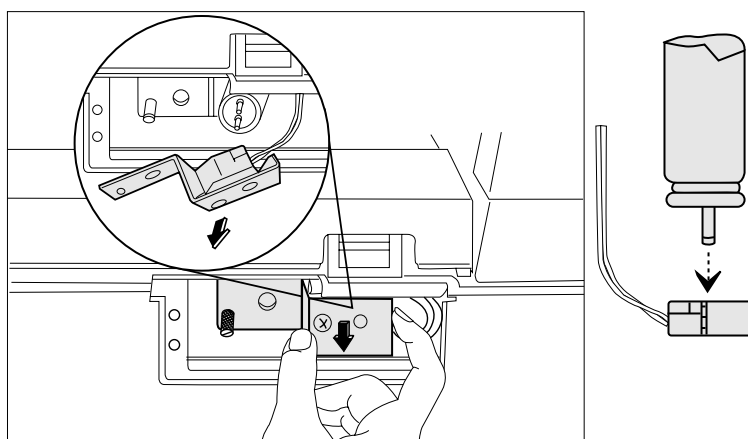
Installing the New Lamp

- 1 Insert the new lamp into the lamp holder inside the scanner.**

The lamp can be seen through the document glass. Make sure to position the lamp so the two pins are vertical.

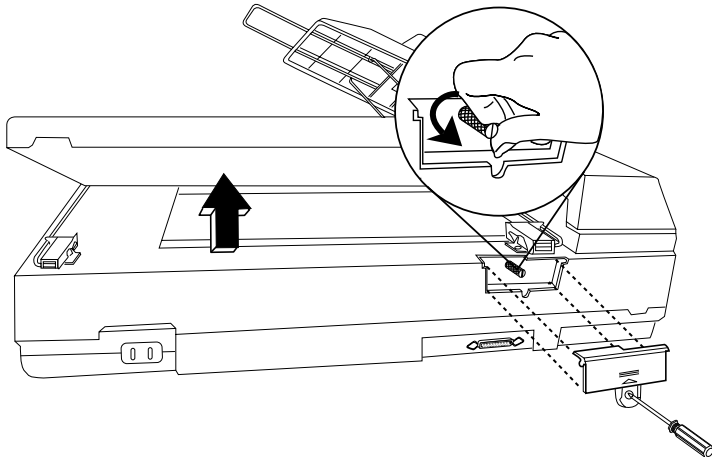


- 2 Use the small window on the top cover towards the front to check the pin position as you slide the lamp into place.**
- 3 Press the lamp into place so that the two pins are inserted firmly into the black bracket.**



Maintenance

- 4 Insert the metal plate over the pins at the other end of the lamp.
- 5 Screw the knurled thumbscrew back into place.
- 6 Lift the rear side of the document cover again.
- 7 Place the plastic plate vertically over the lamp unit, and use the screw you removed earlier to fasten the plastic plate.



- 8 Replace the document cover.

Technical Specifications

Scanner

Engine

Scanner Type	Flatbed and ADF
Scanning Method	1.5 MHz CCD linear image sensor
Scan Speed	Letter: 5.0 sec/200 dpi A4: 5.1 sec/ 200 dpi Legal: 6.0 sec/(200 dpi)
Maximum Document Size	Letter/A4 Flatbed Legal ADF
Maximum Reproducible Area	8.11" x 10.61" / Letter, 200 mm x 287 mm / A4, centered on the page (This is the printer's maximum imageable area.)
Resolution	60-300 dpi in 1 dpi increments
Noise	54dB
Scanner Lamp	8 watt daylight fluorescent
Grayscale	256 steps
Halftone	4 halftone patterns, dither method
Dimensions	160 mm x 560 mm x 345 mm 6.3"x22.0"x13.6" HxWxD
Net Weight	30 lbs/13.6 kg
Interface	SCSI-2 (8-bit parallel)
Cable Specification	50-pin to 50-pin Amphenol shielded.
Cable Length	≤ 20'6 M

Power Requirements

Voltage	90-132 VAC (switchable to 180-264 VAC)
Frequency	47-63 Hz
Power Consumption	Operating 30 watts Non-operating 10 watts
Acoustic Noise	54 dB
Temperature	Operating 5° to 40°C/41° to 104° F Non-operating -40°-60° C/-40°- 140° F Gradient 10° C/hr (50° F/hr)
Relative Humidity	Operating 10-90 RH (non-condensing) Non-operating 10-90 RH (non-condensing)
Vibration	Operating 0.25 Hz Non-operating 1.00 Hz
Safety	UL 478-4th, CSA C22.2 No. 220 TUV EN60950 (IEC 950)
EMI	FCC Part 15 Class B DOC Class B (Canada)

Automatic Document Feeder (ADF)

Maximum readable area	8.5" wide x 14" long/216 mm wide x 356 mm long
Paper size	3.9" x 3.9"/100 mm x 100 mm to 8.5" x 14"/216 mm x 356 mm
Paper weight	14-28 lbs
Paper quality	Wood-free PPC paper, specified by Xerox Corporation
Paper condition	Should not contain ink that can be transferred to rollers. Do not scan documents with tears, holes, wrinkles, carbon, or adhesives, with paper clips or other fasteners, with folds or curls (more than 6mm).
Paper chute capacity	50 sheets (A4, 14-28 lbs)
Paper stacker capacity	50 sheets (A4, 14-28 lbs)
Reading speed	10 ppm (Letter size/200 dpi) 8 ppm (Letter size/300 dpi)



6

Security Key, Accessories, and Warning Buzzer

In This Chapter . . .

- “Pedestal Stand” on page 6-2
- “CrownCopy Stand” on page 6-6
- “Security Key” on page 6-7
- “BuzzBox Lite Option” on page 6-11

Introduction

This chapter provides information on the pedestal stand, CrownCopy stand, the security key, and BuzzBox Lite options which are available for purchase from your QMS vendor. See appendix A, “QMS Customer Support,” for sales and support information.

Pedestal Stand

The pedestal stand is a sturdy metal cabinet capable of supporting the printer's 106 lb (48 kg) weight. For aesthetics, it is the same color as the printer, and for ease of use and flexibility in moving the printer, it's on rollers.

What's in the Kit?

Your pedestal stand kit contains the following item:

- Pedestal stand

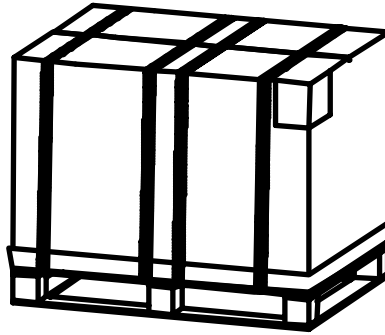
Unpacking the Pedestal Stand

The packing materials that protect the pedestal stand during shipment—cardboard, polystyrene, tape, and shipping spacers—must be removed before you can use the unit.

Use the following procedure to unpack the pedestal stand.

- » **Note:** *Save the packing material in case you ever have to move or ship the pedestal stand to a new location.*

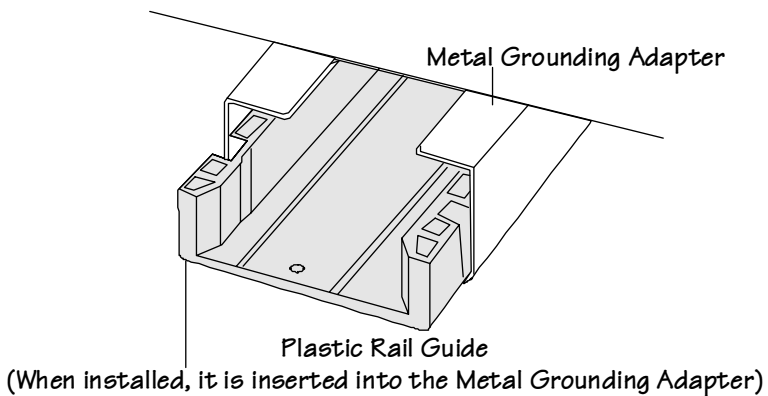
- 1 Remove the four banding straps.



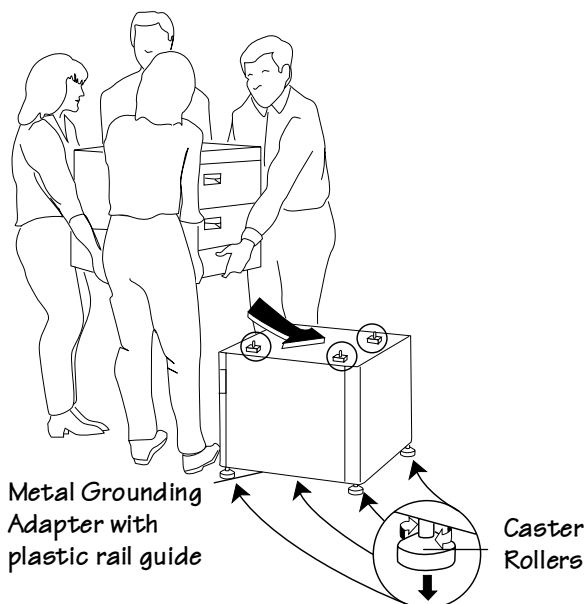
- » **Note:** *These straps may be positioned differently on your pedestal stand unit.*
- 2 Pull down the flaps on the bottom of the box.
 - 3 Lift off the box.
 - 4 Slide the pedestal stand out of the box.
 - 5 Remove all tape from the pedestal stand.

Installing the Pedestal Stand

- ▲ **Caution:** *If you're installing a Stackler with the pedestal stand, check that there is a metal grounding adapter with a plastic rail guide (for the connecting guide) installed underneath the stand. If the plastic rail guide is missing, contact the QMS Customer Response Center (CRC) for an upgrade kit. See appendix A, "QMS Customer Support," for sales and support information.*



Use the following procedure to locate the printer on the pedestal stand:



- 1 Position the pedestal stand so that you can easily get to the caster rollers.
- 2 Unscrew the caster rollers and pull them out until they are fully extended.



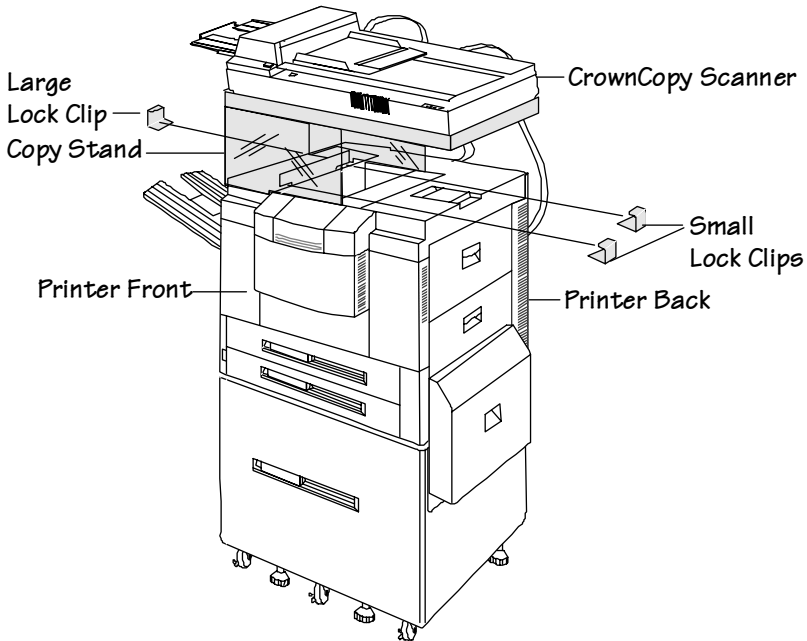
WARNING: The printer weighs approximately 106 lb. (48 kg). Do not attempt to lift or move it by yourself.

ACHTUNG! Der Drucker wiegt ca. 48 kg; bitte versuchen Sie niemals, das Gerät alleine anzuheben oder zu tragen.

- 3 With two or more persons, lift the printer, and position it on the pedestal stand.

CrownCopy Stand

The copy stand allows you to place the CrownCopy scanner on top of the printer. It is made of clear acrylic. Use the following procedure to install the CrownCopy stand:



- 1 **Unpack the copy stand.**
- 2 **Set the copy stand on the printer.**

» **Note:** The cutout on the top of the copy stand is for the scanner interface ports. The cutout should face the back of the printer.

- 3 **Secure the stand to the printer with the 3 lock clips.**

The stand has three cutouts for the lock clips. Position each clip over its cutout and push it in towards the printer until the clip is secure.

- 4 **Place the scanner on the stand with its interface ports facing the back of the printer.**

Security Key

An optional security key is available to password protect the Operator Control and the Administration menus. When a security key is installed, the Installation menu appears in the printer's menu structure.

-
- ▲ **Caution:** *Even though both the security and serial options have a DB-9 interface, the connectors are keyed, and they can't be interchanged. Make sure that you install the security key only in the slot marked **SECURITY** on the back of the printer.*
-

What's in the Kit?

- A security key (9-pin connector labeled security)

Procedure

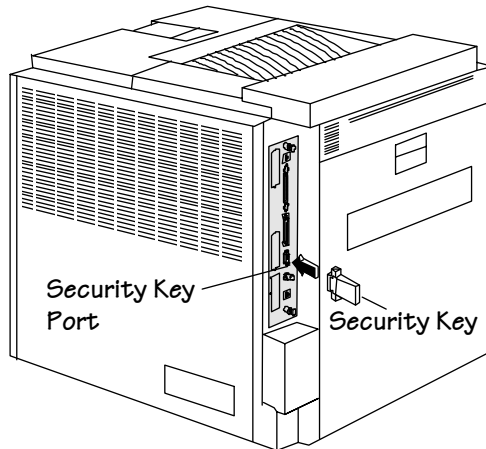
The security key port is located on the back left side of the printer. To install a security key, use the following procedure:

- 1 **Make sure the printer is on line.**

The Online indicator light should be on.

Security Key

- 2 Insert the security key into the port.



- 3 Press the Online key to take the printer off_line.
 - 4 Press the Menu key.
 - 5 Press the Next key until the message window displays
CONFIGURATION
INSTALLATION
 - 6 Press the Select key.
 - 7 Press the Next key to view the following options: Operator Passwrd, Use Operator Pwd, Admin Password, and Use Admin Pwd.
 - 8 To protect the Operation menu, use the Operator Passwrd option to select the password, and then Use Operator Pwd to turn on this option.
- » **Note:** When print system software is updated, any passwords you have set for the Operator Control and Administration menus are lost. To reset these passwords, use the following instructions.

Operator Password

Allows you to enter a password used to enter the Operator menu when enabled.

Menu	Installation/Operator Passwr
Choices	Up to 16 alphanumeric characters
Default	Blank (no password)
Notes	Enable the password in the Installation/Use Operator Pwd menu.

- 9 To protect the Administration menu, use the Admin Password option to select the password, and then Use Admin Pwd to turn on this option.**

» **Note:** *Keep in mind that this same password protects the Admin mode of Remote Console, available through CrownAdmin and CrownAdmin2.*

Admin Password

This represents the password used to enter the Administration menu when enabled.

Menu	Installation/Admin Password
Choices	Up to 16 alphanumeric characters
Default	Blank (no password)
Notes	Enable the password in the Installation/Use Admin Pwd menu.

Use Admin Password

Determines if a password is required to enter the Administration menu.

Menu	Installation/Use Admin Pwd
Choices	On—Require a password to enter the Administration menu. Off—Don't require a password to enter the Administration menu.
Default	Off
Notes	Enter the password in the Installation/Admin Password menu.

10 Once passwords are activated, press the Menu key to exit the menu. The following message is displayed

SAVE CHANGES?
*NO

11 Press the Next key until YES is displayed on the bottom line of the display window.

12 Press Select and remove the security key from the port.

Once a menu is password protected, you cannot enter the menus or make changes in it until you enter a valid password. You'll know whether or not the menu is password protected when you press the Select key when trying to enter the menu structure. If the menu is password protected, ENTER PASSWORD appears on the message window. Passwords are entered as alphanumeric values. If you enter an invalid password, the message window flashes INVALID PASSWORD for three seconds, and then returns to the parent menu. If you forget the password, your system administrator can easily recover it by following the installation procedure again. When the correct password is entered, the sub-menu displays. The password for these two menus may be the same or different. See "Installation Menu" in chapter 4, "Printer Configuration," of the *Reference* for more information.

» **Note:** Password protection does not prevent software commands from changing functions.

Using Passwords

When a password is required to enter the Operator Control or Administration menu, the message window displays

ENTER PASSWORD

if you press the Select key to enter the menu. Enter the password or press the Menu key to return to the menu.

If you specify the correct password, access to the selected menu is granted. However, if you enter an invalid password, the message window flashes

INVALID PASSWORD

for three seconds and then returns you to the Configuration menu.

BuzzBox Lite Option

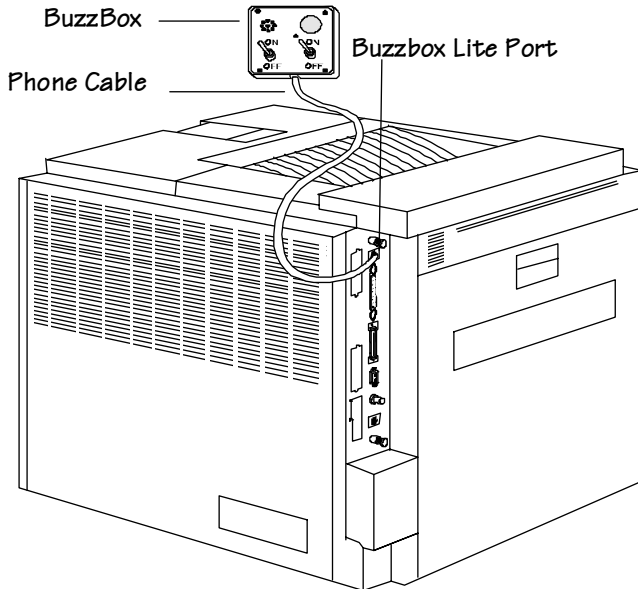
BuzzBox Lite is a printer accessory that warns you with a buzzer and/or a blinking light any time the printer goes off line. This means you're alerted to print job interruptions such as empty paper trays.

What's in the Kit?

- BuzzBox Lite unit
- RJ-11 cable
- Velcro strip

Installing BuzzBox Lite

- 1 **Install one end of the RJ-11 cable connector to the port labeled BuzzBox.**



- 2 **Attach the other end of the RJ-11 cable to the BuzzBox Lite unit.**
- 3 **Make sure the site you choose isn't going to**
 - interfere with paper exiting the printer.
 - cover any vents, doors, connectors, or labels.
- 4 **Use the Velcro provided to mount BuzzBox Lite where the printer operator can see and/or hear it.**

We've provided a 14-foot (4.2m) cable (and some adhesive-backed clips for securing it), but you can use up to a 500-foot cable (RJ-11 4-pin or 6-pin).

- 5 To test BuzzBox, make sure its switches are on, then press the printer's Online key.**

» **Note:** *You can set the switches in one of the following ways:*

- Set the buzzer On and the light Off
- Set the light On and the buzzer Off
- Set both the buzzer and the light On

The light flashes and the buzzer sounds until the printer is placed back on line or until the light and buzzer switches are turned off.

Using BuzzBox Lite

- When BuzzBox lights or buzzes, check the printer message window to find out what has interrupted printing. See chapter 6, "Trouble-Shooting," of the *Operations* manual for a list of printer messages and how to respond to them.
- Remember that pressing the Online key to enter the printer configuration menu will turn on BuzzBox.



7

Media Input

In This Chapter . . .

- “High-Capacity Paper Deck” on page 2-2
- “Automatic Envelope Feeder” on page 2-12

Introduction

This chapter provides the installation instructions for the high-capacity input paper deck and the envelope feeder. These options are available for purchase from your QMS vendor. See appendix A, “QMS Customer Support,” for sales and support information.


High-Capacity Paper Deck

The optional input paper deck holds 2000 sheets and increases the paper input capacity of the printer to 3100 sheets (including the multi-purpose tray). The paper deck can feed paper sizes A3, A4, B4, ledger, legal, and letter. Installing the paper deck requires that the printer be lifted on top of the paper deck.

What's in the Kit?

- Input paper deck
- Power cord
- » **Note:** *Keep in mind that the option controller board with interface cable (not included in this kit) is a separately purchased option which must be installed before you can use the high-capacity input paper deck. Check with your QMS vendor for ordering information. See appendix A, “QMS Customer Support,” for sales and support information.*

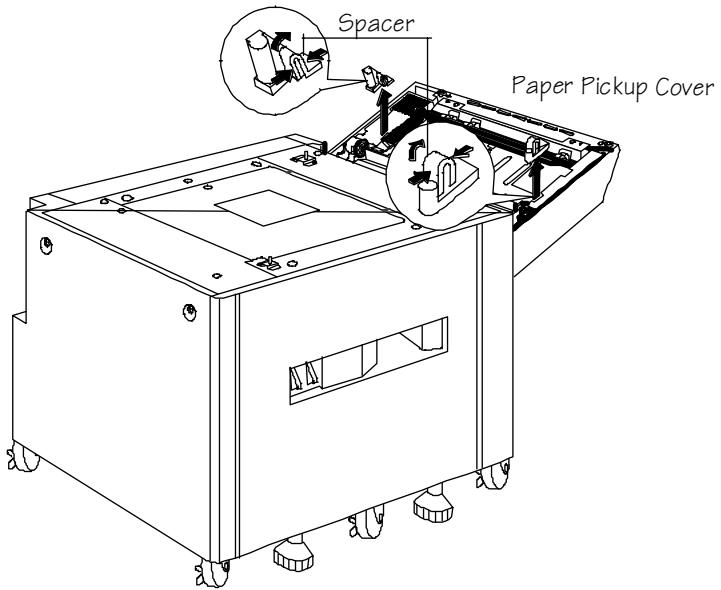
Installation Procedure

 **WARNING:** *The paper deck weighs approximately 60 lbs. (27 kg). Do not attempt to lift or move it by yourself.*

ACHTUNG! *Der Drucker wiegt ca. 27 kg; bitte versuchen Sie niemals, das Gerät alleine anzuheben oder zu tragen.*

High-Capacity Paper Deck

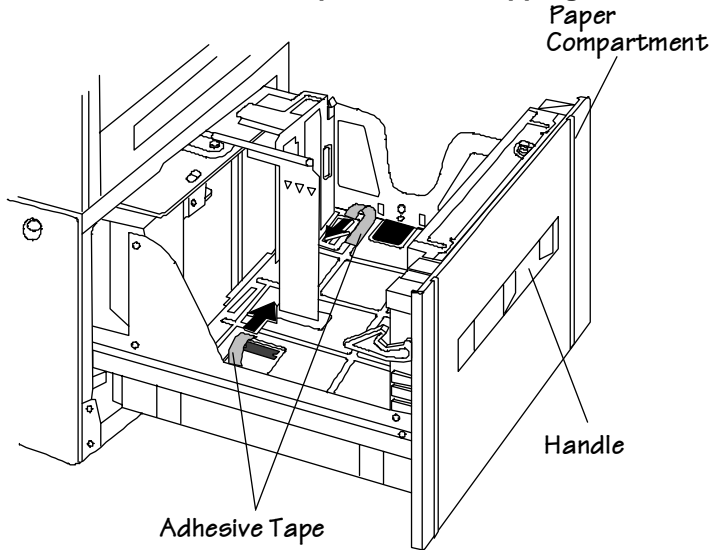
- 1 Unpack the paper deck and the power cord from the box.
- 2 Open the paper pickup cover and remove the two spacers by pressing on the tab as shown in this illustration.



High-Capacity Paper Deck

- 3 Open the paper compartment by grasping the handle and pulling outward.

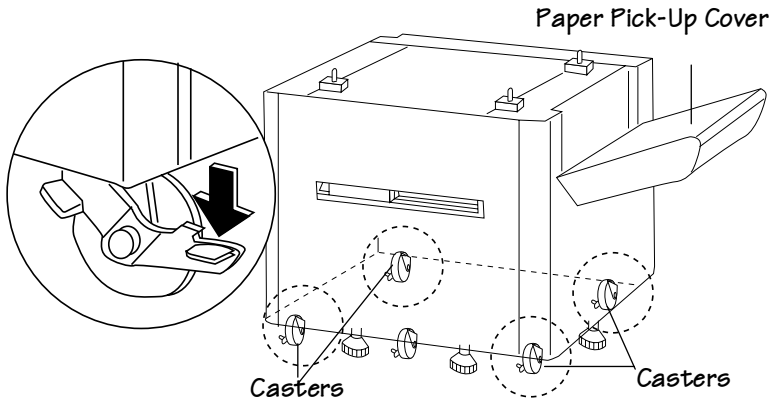
Then remove the adhesive tape used for shipping.



- 4 Move the paper deck to the installation location or close to where the printer is installed.

High-Capacity Paper Deck

The paper deck should roll easily on four casters. Lock the casters by pressing the ON lever, and open the paper pick-up cover as shown.



- 5 From the left and right side of the printer and with two or more persons, lift the printer carefully and hold it over the paper deck.

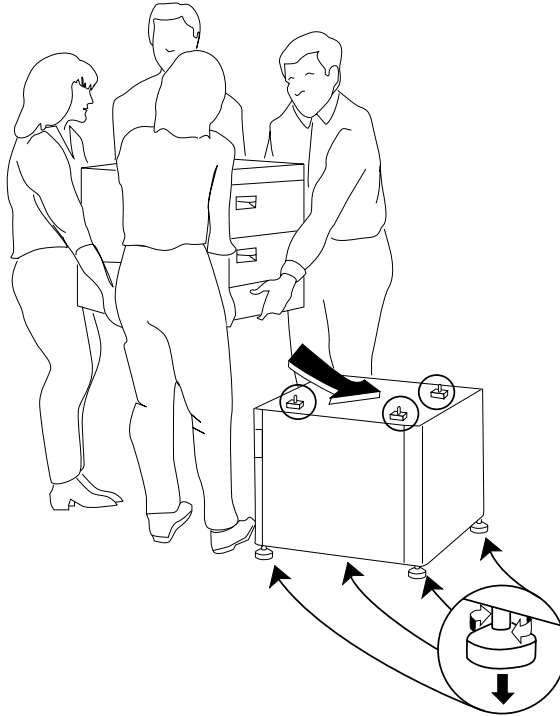


WARNING! The printer weighs approximately 106 lbs (48 kg). Do not attempt to lift or move it by yourself.

ACHTUNG! Der Drucker wiegt ca. 48 kg; bitte versuchen Sie niemals, das Gert alleine anzuheben oder zu tragen.

High-Capacity Paper Deck

- 6 **Make sure the front of the printer is facing the same direction as the paper deck. Lower the printer onto the three positioning pins on the paper deck.**

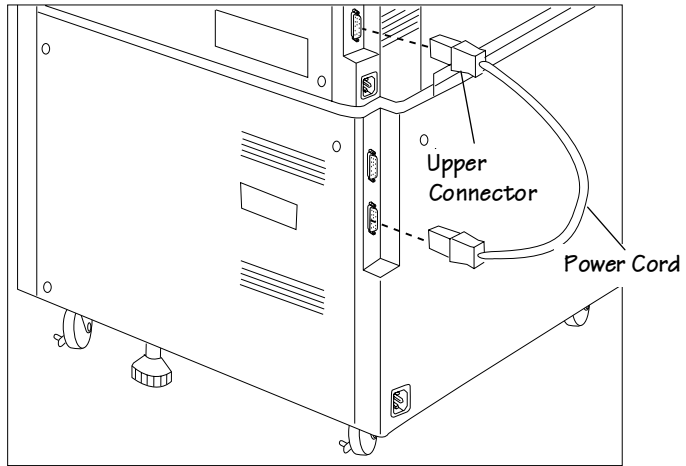


- 7 **Close the paper pickup cover.**
- 8 **You may adjust the four paper deck feet so that the printer is level or allow the printer to rest on the locked casters.**
- 9 **Install the option controller board onto the controller board.**
Follow the steps in chapter 3, the "Installing the Option Controller Board" section, of this manual.
- 10 **Connect the data cable to the print engine "Option Controller" output.**

This is located on the interface panel at the rear of the printer. Tighten the thumb screws to ensure a good connection.

11 Connect the other end of the data cable to the paper deck connector.

There are two connectors located on the paper deck. The *upper* connector is the *correct* connector.



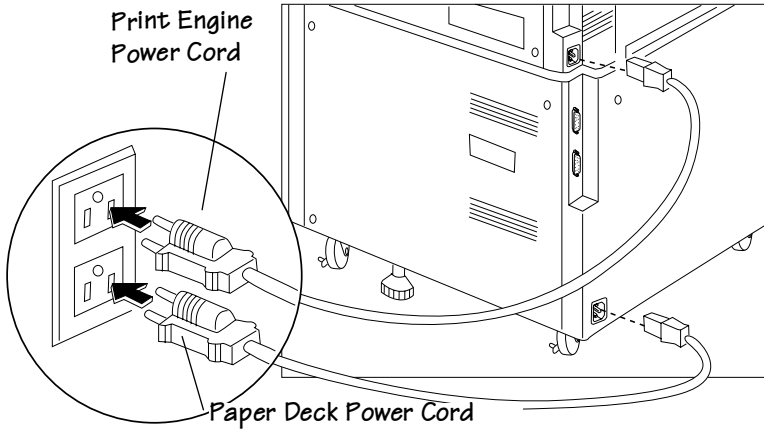
12 Tighten the thumb screws to ensure a good connection.

The other connector is used for the optional Stackler.

High-Capacity Paper Deck

- 13 Connect the power cord to the paper deck at the left-rear side of the paper deck.

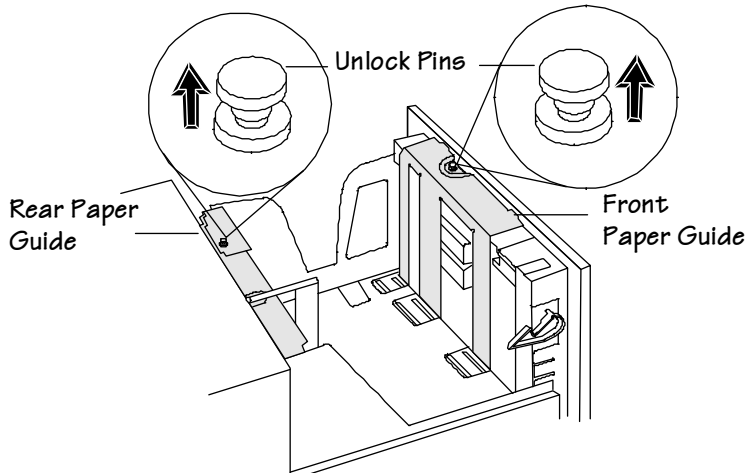
» **Note:** *Don't forget to connect the print engine power cord.*



- 14 Open the paper deck compartment to prepare the paper guides.
- 15 When looking down into the paper compartment, you will see a front paper guide with marks for the correct paper sizes. Unlock this paper guide by lifting the pin located at the top of the paper guide.

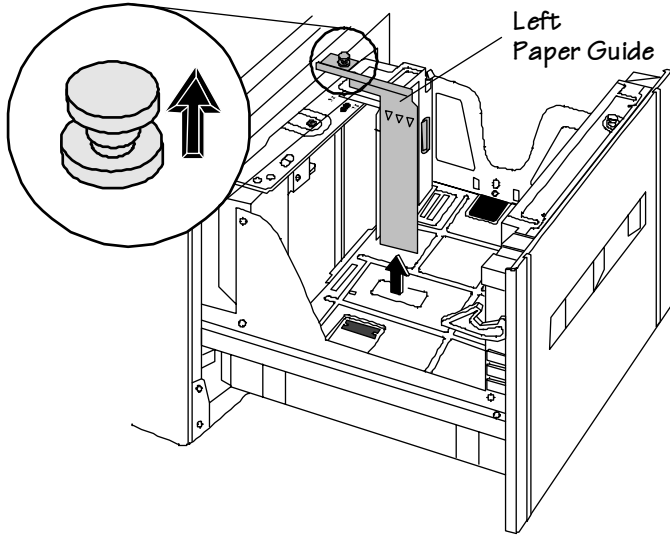
16 Move the front paper guide to the correct paper size slot.

Be sure to position the paper guide in the slots at the bottom and at the top of the paper guide. The rear paper guide must also be adjusted. Push the pins down to lock the paper guides into place.

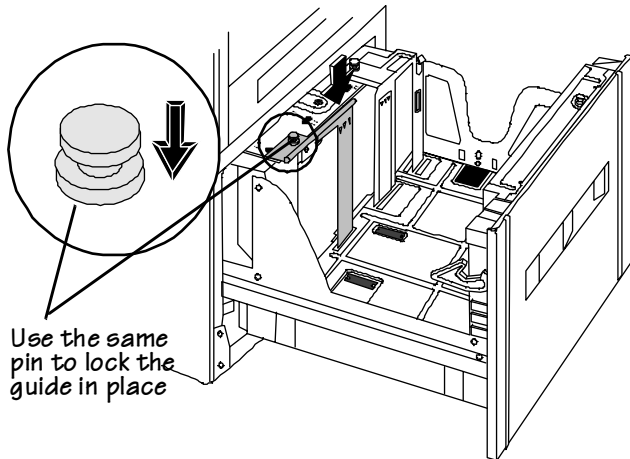


High-Capacity Paper Deck

- 17 Unlock the left paper guide by lifting the lock pin, and set it to the same paper size, making sure that it goes into the paper size slot at the top and the bottom of the guide.

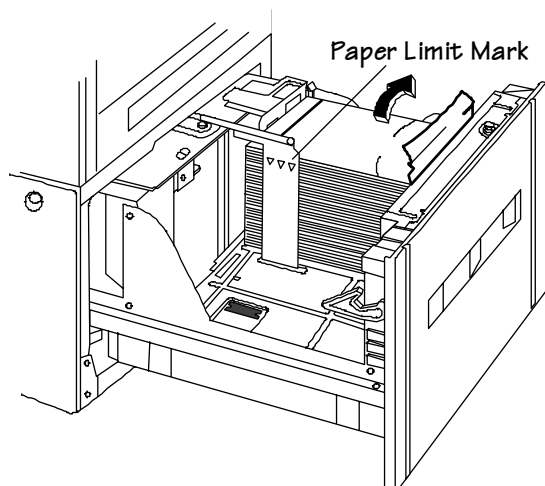


- 18 For 11" x 17" paper, insert the left paper size guide as shown.



- 19 Load a stack of paper with the print side down into the paper deck.**

The deck can hold approximately 2000 sheets. Make sure the stack does not exceed the paper limit mark on the paper guides.



- 20 Close the paper deck until it locks into place.**
- 21 Turn the printer power back on, and check the LCD display to make sure the printer is ready to print.**
- 22 Configure your printer input bin for the paper deck through the configuration menu.**

Use the Inputbin option in the Operator Control menu to choose the paper deck. See chapter 4, "Printer Configuration," in the *Reference*.

Automatic Envelope Feeder

With the optional envelope feeder, you can print up to 100 business or personal-size envelopes at a time. A stack height of about 100 envelopes would be 2.875" (73mm). The envelope feeder supports the following sizes: Envelope (9.76" x 6.93") 248 mm x 176 mm, COM 10 (9.5" x 4.125") 241 mm x 105 mm, Monarch (7.5" x 3.875") 191 mm x 98 mm, DL size (8.66" x 4.33") 229 mm x 162 mm, and C5 size (9.02" x 6.38") 229 mm x 162 mm. This tray lets you print mailing addresses on envelopes pre-printed with logos or return addresses. It even allows you to print your own logo and return address, along with the mailing addresses.

Selecting Envelopes

Envelopes must meet the specifications listed above, in chapter 2, "Print Media" of the *Reference* guide, and in appendix B, "Technical Specifications" of the *Reference* manual. They should be the top flap type with pre-folded sealing flaps. The leading edge (the edge that feeds into the printer) must be thin and well creased. End flap envelopes, envelopes with transparent windows, and envelopes with three or more layers on the left and right edges are not recommended. Note the following conditions when selecting envelopes:

- They do not contain fasteners, clasps, windows.
- They do not have peel-off strips for sealing.
- They do not contain materials that melt, vaporize, offset, discolor or emit dangerous fumes at high temperatures (190°C/374°F).
- They are not wrinkled, torn, or curled, and edges are square and crisply folded.

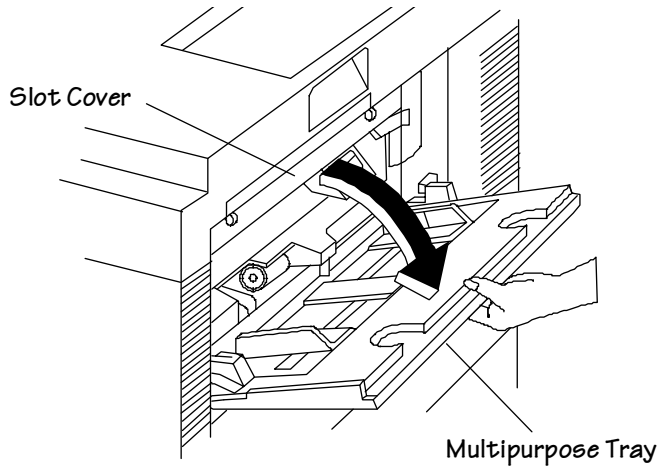
Installing the Envelope Feeder

Follow these steps when installing the optional envelope feeder on the printer:

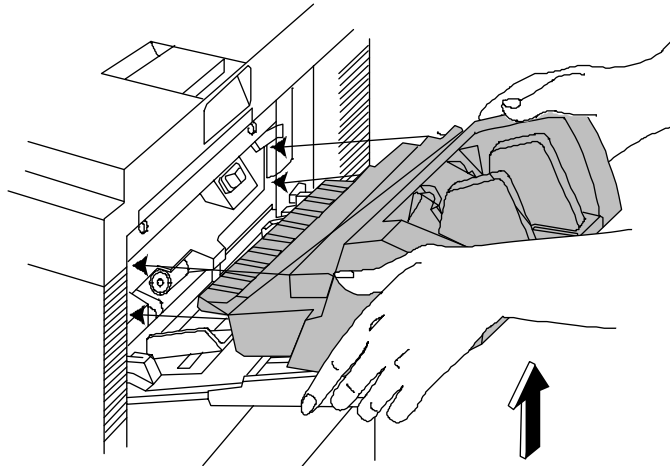
- 1 Remove the envelope feeder from its box, and remove all the packing materials.**

Automatic Envelope Feeder

- 2 Turn off the printer.
- 3 Open the multipurpose tray, and remove the envelope feeder slot cover.



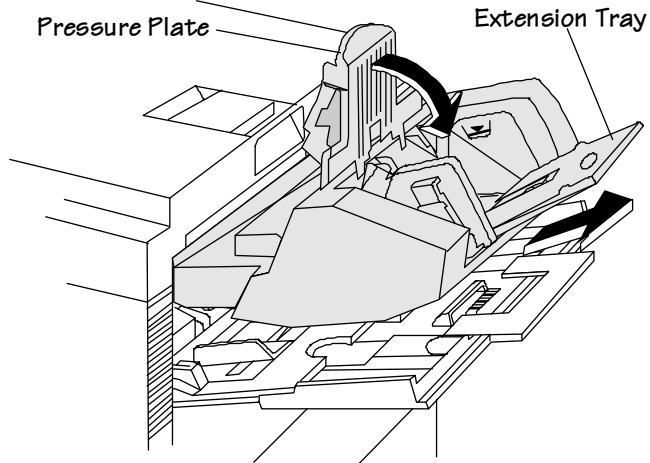
- 4 Align the tabs on the envelope feeder with the slots on the printer, and gently insert the envelope feeder all the way into the slot until it clicks.



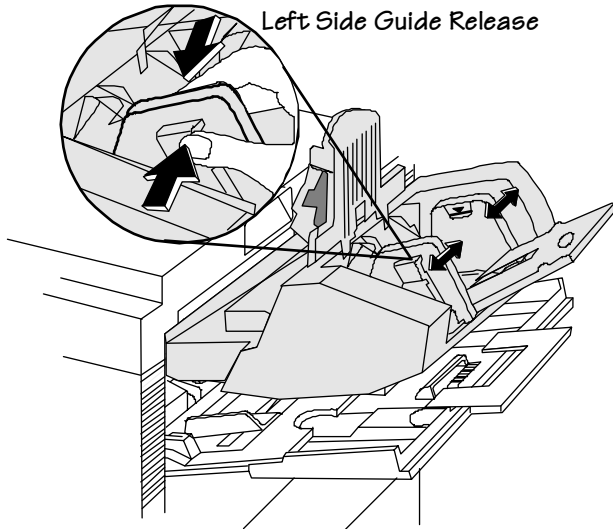
Automatic Envelope Feeder

- 5 Lift the envelope pressure plate, and gently pull out the envelope feeder's extension tray until it latches.**

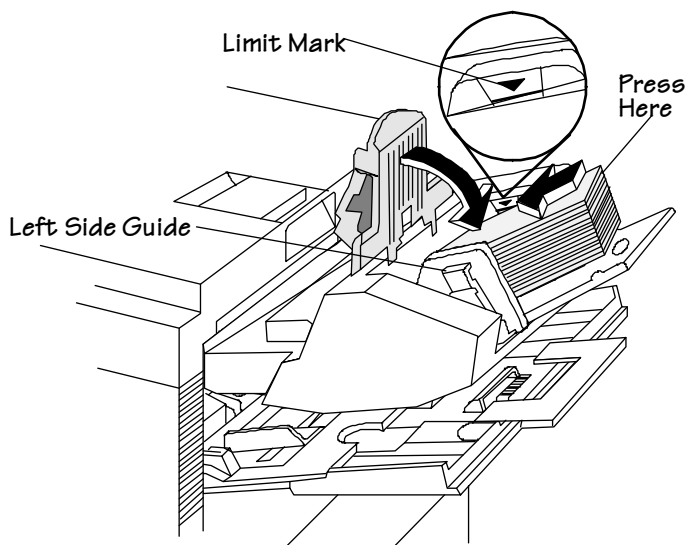
The extension tray must be pulled out for all envelope sizes.



- 6 Grasp the left side guide release, and slide it all the way to the left.**



- 7 Prepare a stack of envelopes (no more than 100) by tapping them against a flat surface to align the leading edge.
 - 8 Insert the envelopes into the envelope feeder with the print side up and the flaps toward the rear of the printer.
 - 9 Grasp the left side guide release, and adjust the guide so that it touches the left side of the envelopes.
- » **Note:** *Do not adjust the guides too tightly against the envelopes.*
- 10 Make sure the envelope stack does not exceed the limit mark on the side guide and then lower the envelope pressure plate to stabilize the envelope stack.



- 11 To fit the envelope stack properly press lightly on the outer edge of the stack to push it into position.

The envelope stack should be slightly angled from the bottom to the top.
- 12 Turn the printer power back on and check the LCD display to make sure the printer is ready to print.

13 Configure your printer for envelope printing through the configuration menu.

Use the Operator Control/Envelope Size menu to select the envelope size.

14 Select the output bin using the configuration menu.

See chapter 4, “Printer Configuration” in the *Reference*.



8

Document Finishing Options

In This Chapter . . .

- “Duplexer” on page 8-2
- “Stackler” on page 8-5
- “QMS Model 3100 Stacker” on page 8-31

Introduction

This chapter provides the installation instructions for the optional duplexer, Stackler, and Model 3100 Stacker. These options are available for purchase from your QMS vendor. See appendix A, “QMS Customer Support,” for sales and support information.

- » **Note:** *The printer must have a minimum of 12 MB of RAM to use any option.*

Duplexer

The optional duplexer allows you to print on both sides of the page on any size media at 300x300 dpi. However, printing duplex via the cassette at 600x600, or 1200x1200 dpi resolutions may require additional memory. (See the memory tables in chapter 3, the “How Much Memory Do You Need?” section, of the *Operations* manual for each resolution/media size memory requirement.

-
- ▲ **Caution:** *Due to the curved path of the duplexer only paper between 17 and 28 lbs should be used. Envelopes, transparencies, and labels should not be used when duplexing.*
-

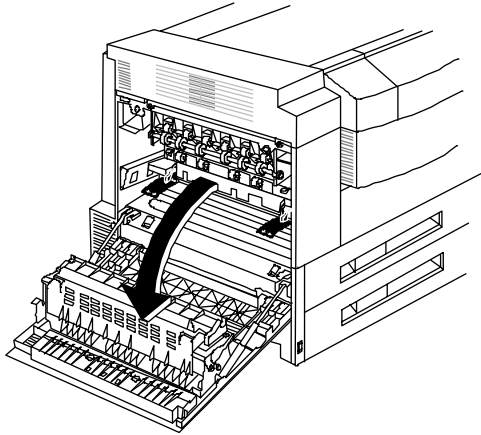
Installing the Duplexer Assembly

-
- ▲ **Caution:** *This hardware change automatically restores defaults. If your memory settings are specific for your environment, print an advanced status page before making this hardware change, so you can recover these memory settings.*
-

Follow these steps when installing the duplexer.

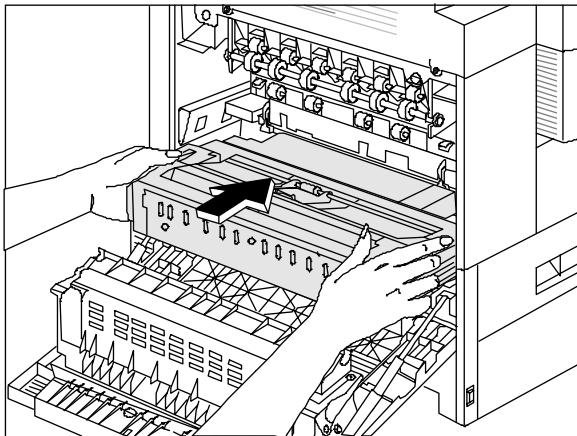
- 1 **Remove the duplexer from its box, and remove all the packing materials.**
- 2 **Turn off the printer, and remove the power cord.**

- 3 Open the printer's left cover.



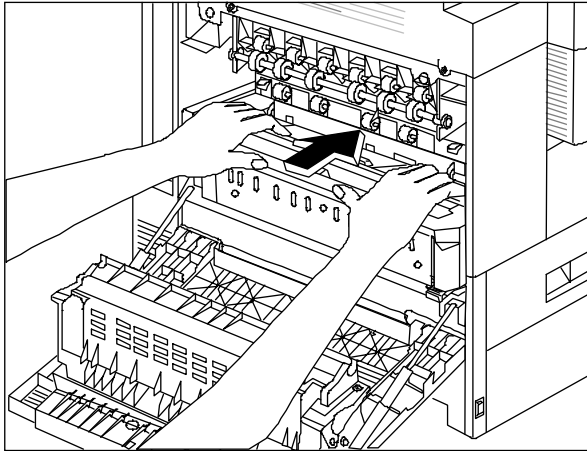
- 4 With both hands, insert the duplexer assembly all the way into the slot of the printer.

» **Note:** Be sure to hold the duplexer by its edges.



Duplexer

- 5 Push on the edges of the duplexer assembly to lock it into place.



- 6 Close the left cover, then plug in the printer.
- 7 **T**urn the printer power back on and check the LCD display to make sure the printer is ready to print.
- 8 Configure your printer for duplex printing through the control panel.

Use the Duplex option in the Operator Control menu to enable duplexing. See chapter 4, "Printer Configuration," in the *Reference*.

Stackler

The Stackler is a 2000-sheet output finisher offering exciting document finishing features—including stacking, job offset, and stapling. It has three addressable output stacking bins. Each bin can be configured to support stapled output, or simple stacked and offset stacked output—making print jobs easy to manage and retrieve in large work-group environments.

Features

The following main features are supported on the Stackler.

- 3 Large-capacity output trays

Two of these trays holds up to 700 sheets. See appendix B, the “Stack Capacity” section, of the *Reference* guide for information on the maximum capacity for each tray.

- Reverse paper delivery

This feature collates the media in the correct order and delivers it face-down. The Stackler supports three modes for face-down media delivery: simple stacking, job offset, and stapling.

» **Note:** *When using the collation with other features, such as stapling, ensure that the collation is disabled in your Windows application Print dialogue box but enabled in the QMS printer driver.*

- Straight paper delivery

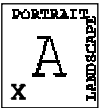
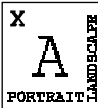
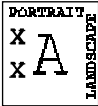



This feature delivers the media face-up. It is ideal for special media. Only simple stacking is supported for face-up media delivery. See appendix B, the “Stack Capacity” section, of the *Reference* guide for information on which modes are supported on each output tray.

- Job offset

This feature offsets the first page of each job by sliding it to one side. Subsequent pages of the job aren’t offset.

■ Stapling

This feature automatically produces stapled sets of output—up to 20 sheets per set—for immediate distribution. Pages can be stapled at the front corner, at the back corner, or at two points in the center. The following table displays the approximate position of the staple depending on the page size, the selected staple position, and the selected orientation.

Paper Size	Staple Position		
	Front	Back	Center
Letter			
11/17"/A3 Legal/B4			

» **Note:** The center staple position is not supported for legal-size paper.

Hardware Requirements

Before you can use the Stackler option, your QMS 2425/2425 TURBO Print System must

- Be configured with a high-capacity input paper deck or a pedestal stand for proper Stackler grounding and alignment.

-
- ▲ **Caution:** *If you're installing a Stackler with the pedestal stand, check that there is a metal grounding adapter with a plastic rail guide (for the connecting guide) installed underneath the stand. If the plastic rail guide is missing, contact the QMS Customer Response Center (CRC) for an upgrade kit. See appendix A, "QMS Customer Support," for sales and support information.*
-

- Be configured with an option controller card to enable communication between the printer and the Stackler.

What's in the Kit?

Your Stackler kit contains the following items:

- Cable holder
 - Caution sheet (R-IM-326)
 - Data cable
 - Guide rail
 - Grounding adapter
 - Power cord
 - Printer delivery slot adapter
 - Screws (7 total—2 for each tray and 1 for the guide rail)
 - Stackler
 - Staple cartridge
- » **Note:** *Keep in mind that the option controller board with interface cable (not included in this kit) is a separately purchased option which must be installed before you can use the Stackler. Check with your QMS vendor for ordering information. See appendix A, "QMS Customer Support," for sales and support information.*

Unpacking the Stackler

The packing materials that protect the Stackler during shipment—cardboard, polystyrene, tape, and shipping spacers—must be removed before you can use the unit.

Use the following procedure to unpack the Stackler.

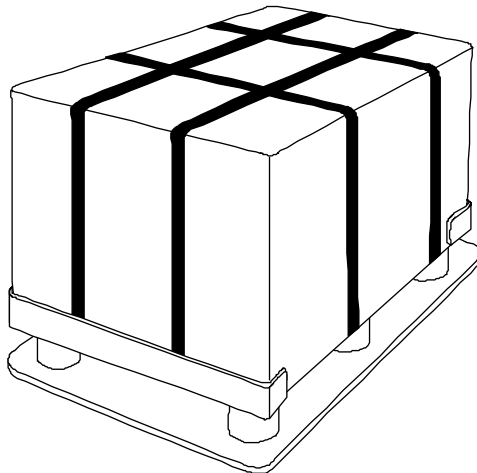
- » **Note:** *Save the packing material in case you ever have to move or ship the Stackler to a new location.*

-
- ▲ **Caution:** *Remove all packing materials (explained below) before turning on the Stackler, or you may damage it.*
-

-
- ⚠ **WARNING!** *The Stackler weighs approximately 62 lbs (28 kg). Do not attempt to lift or move it by yourself.*

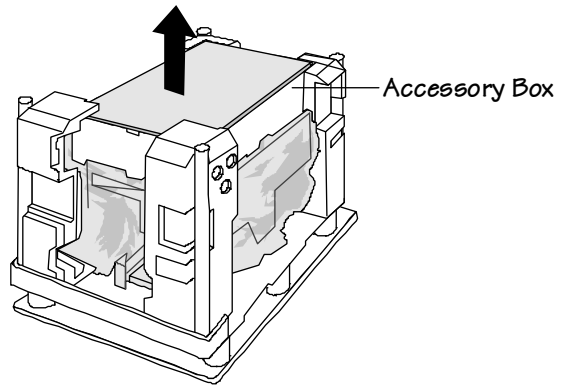
ACHTUNG! *Der Drucker wiegt ca. 48 kg; bitte versuchen Sie niemals, das Gert alleine anzuheben oder zu tragen.*

1 Remove the four banding straps.

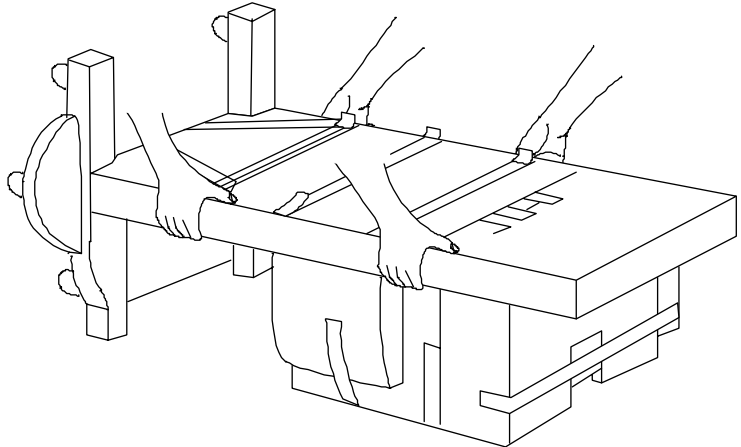


- » **Note:** *These straps may be positioned differently on your Stackler unit.*

- 2 Lift the accessory box out of the carton.**

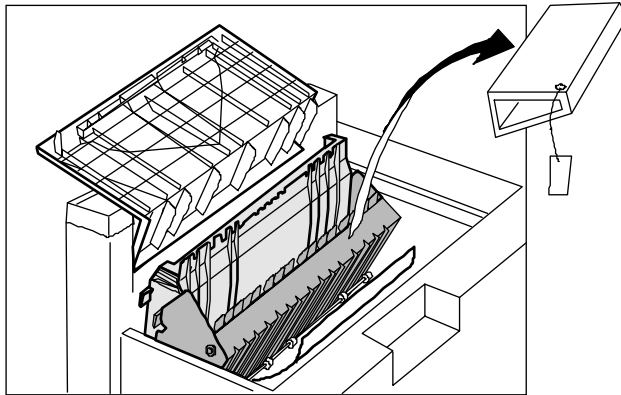


- 3 Have someone help you lift the Stackler out of the carton.**

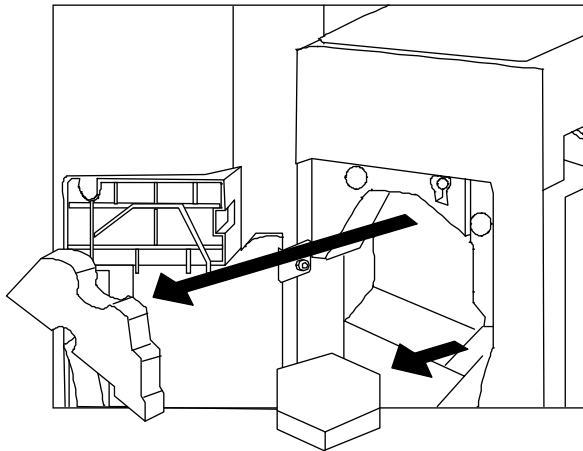


- » **Note:** *One side of the Stackler is heavier than the other side.*
- 4 Remove all tape from the exterior and the protective material from one side of the body.**

- 5 Open the Stackler's top cover and remove the spacer from inside the body.



- 6 Open the front cover and remove the spacers from inside the stapler compartment.



Installing the Stackler

Basically, setting up the Stackler involves the following steps:

- Select the location
- Check the option controller board version
- Install the trays
- Attach the connecting guide
- Install the printer delivery slot
- Connect the cables
- Connect the power

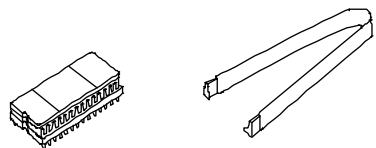
Check the Option Controller Board Version

Depending on the ROM chip version of the option controller board, it may be necessary to replace the ROM chip. You must have the option controller board firmware version that is supplied with the Stackler option. Option controller boards which do not require an upgrade are clearly marked with a red-round seal. Option controller boards requiring an upgrade are unmarked.

Option Controller Upgrade Kit

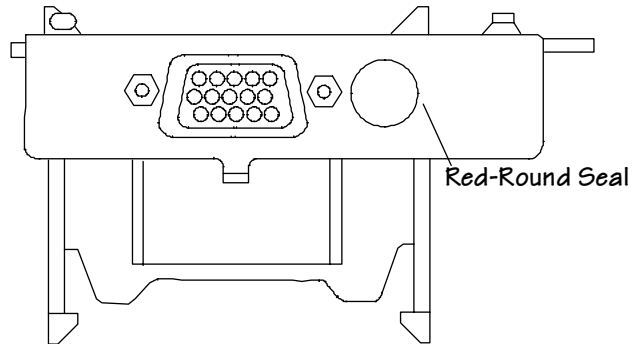
This kit contains the items needed to upgrade the option controller board. They will either be packaged in with your Stackler, or they will be sent to you by the QMS Customer Response Center (CRC).

- Option controller upgrade ROM
- ROM puller
- Anti-static wrist strap

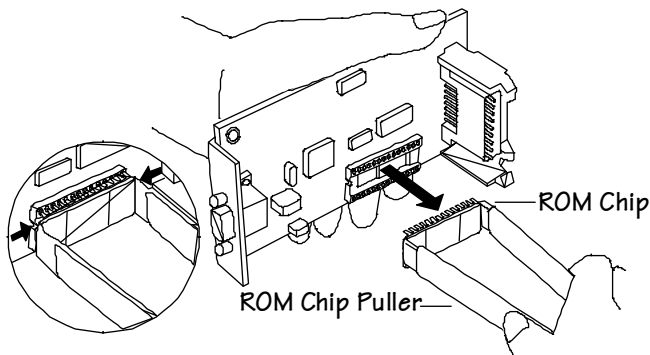


Use the following instructions to determine if you need to upgrade the option controller board.

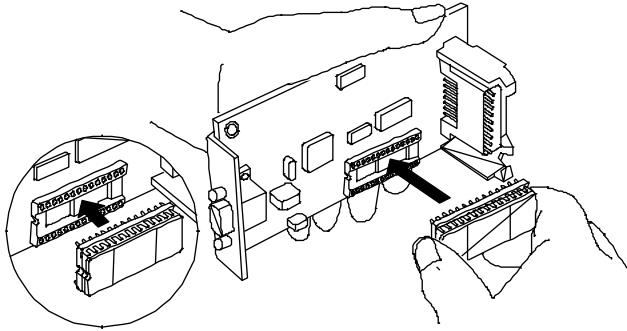
1 Look for a red-round seal on the option controller board.



- a If it is present, you don't need to perform an option controller board upgrade. Continue at step 5 below to install the option controller board.
 - b If it is not present, continue at the next step to replace the ROM chip.
- 2 Identify the socket location of the existing ROM chip, clasp the chip with the ROM chip puller, and remove it.**



- 3 **Make sure that the pins on the new ROM chip are aligned with the grooves on the socket.**



- 4 **Gently insert the new ROM chip into the socket.**

If you feel any resistance, check that the pins are positioned directly over the sockets and that they are properly aligned.

▲ **Caution:** *Do not force the ROM chip into the socket.*

5 **Install the Option Controller Board**

Follow the steps in chapter 3, the “Installing the Option Controller Board” section of this manual.

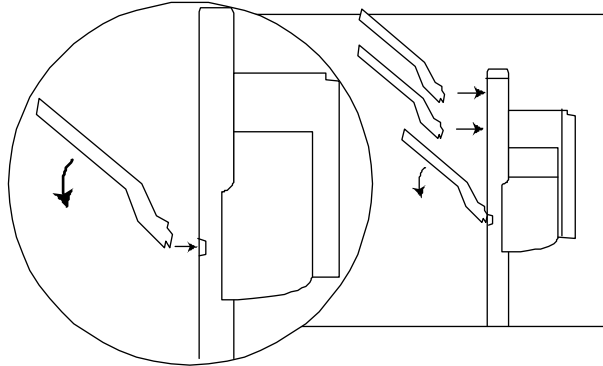
Select the Location

Locate the printer according to the instructions given in chapter 2 of the *Getting Started* guide. Install the printer and the Stackler on a hard, flat surface, so that they are level with each other.

▲ **Caution:** *For proper installation of the Stackler, the printer must be installed on either an optional high-capacity input paper deck or an optional pedestal stand. Installing the printer and the Stackler at different levels may prevent paper transport. Allow ample space around the Stackler so that it can be used correctly.*

Install the Trays

- 1 Position the lower tray on the tray slot as shown and insert the two tabs on the tray into the square slots on the body.**

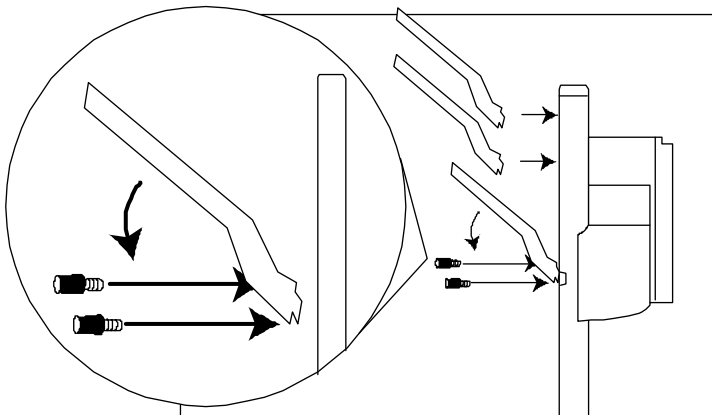


- 2 Lower the tray until it snaps into position.**

Make sure there is no gap between the vertical frame and the output tray.

- 3 Attach the screws provided as shown and tighten them with your fingers.**

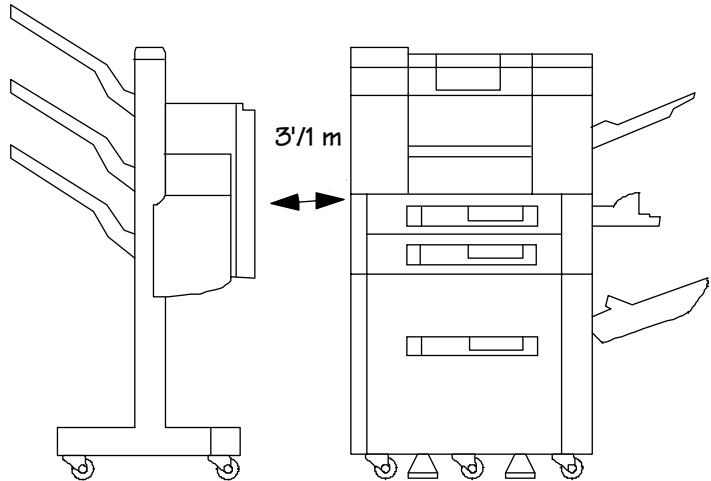
Turn the tray screws clockwise until they lock into position.



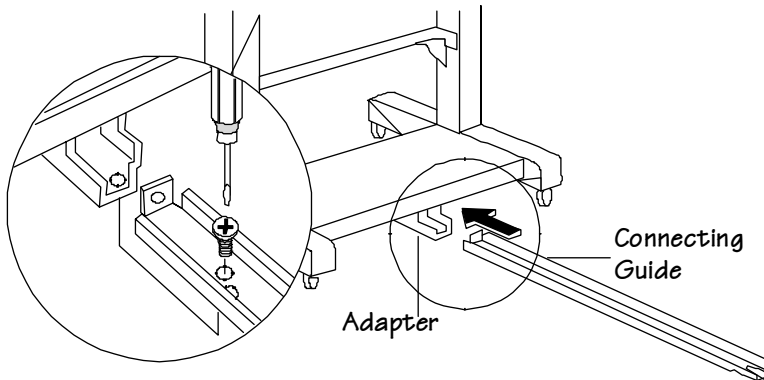
- 4 Repeat steps 1-3 to attach the middle tray, and then the upper tray

Install the Connecting Guides

- 1 Place the printer in the installation location, and position the body about 3'1 m from the printer.



- 2 Slide the connecting guide rail (the end without the screw on the back) into the adapter on the paper deck or the pedestal stand.



The Stackler is connected to the printer by a connecting guide. This guide must be installed for correct positioning of the Stackler.

»

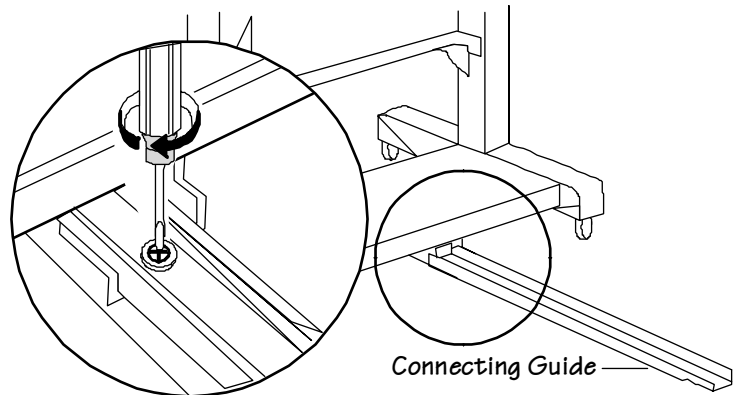
Note: Media jams and skewed paper feeding may occur if this guide is not used.



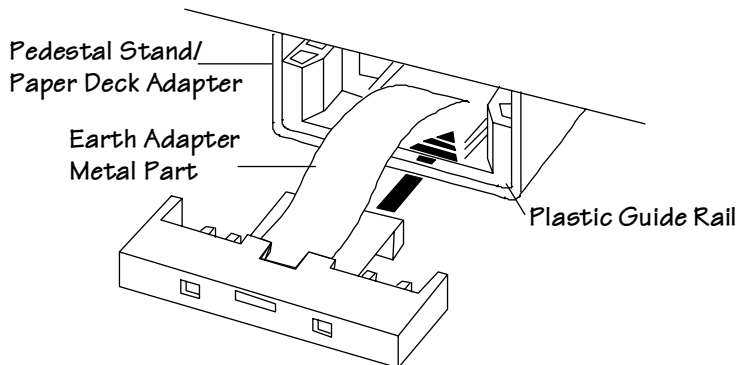
WARNING! When attaching the connecting guide, turn off the printer and unplug the power cord.

ACHTUNG! Bitte schalten Sie vor Montage der Führungsschiene den Drucker aus und ziehen das Netzkabel heraus.

- 3 Tighten the screw that fastens the connecting guide to the Stackler.

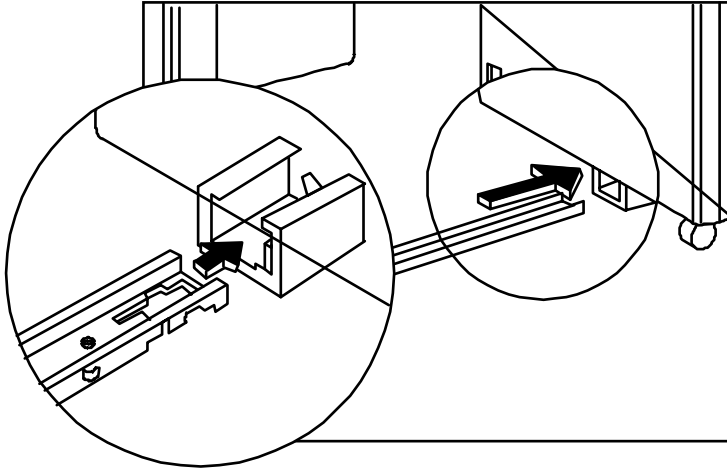


- 4 Insert the metal part of the earth adapter unit into the plastic rail guide on the adapter of either the high-capacity input paper deck or the pedestal stand.



Caution: If you're installing a Stackler with the pedestal stand, check that there is a metal grounding adapter with a plastic rail guide (for the connecting guide) installed underneath the stand. If the plastic rail guide is missing, please contact the QMS Customer Response Center (CRC) for an upgrade kit. See appendix A, "QMS Customer Support," for sales and support information.

- 5 Insert the free end of the connecting guide (the end with the screw on the back) into the adapter on either the high-capacity input paper deck or pedestal stand.

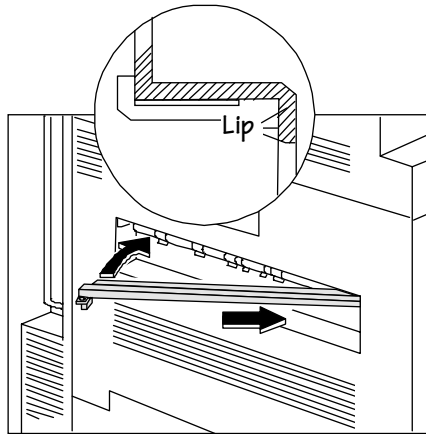


Install the Printer Delivery Slot

⚠ **WARNING!** When attaching the delivery slot, turn off the printer and unplug the power cord.

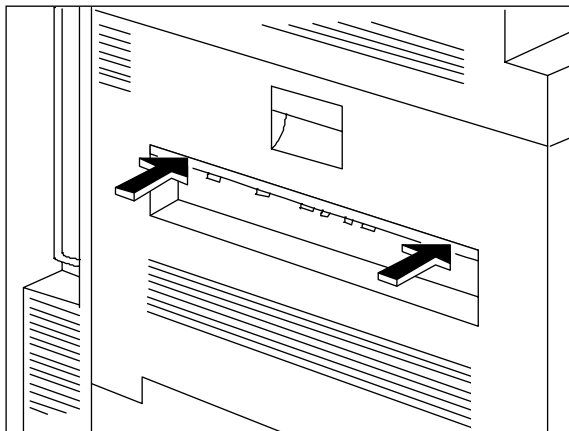
ACHTUNG! Bitte schalten Sie vor Montage des Drucker-Ausgabeschachtadapters den Drucker aus und ziehen das Netzkabel heraus.

- 1 Insert the delivery slot adapter into the mounting holes on each side of the face-up delivery slot on the printer.



» **Note:** If the delivery slot adapter is not fitted or is not fitted securely, the paper may not travel into the Stackler correctly and may jam.


- 2 Check that the adapter is hooked over the protruding lip above the printer's eject slot.



Connect the Cables

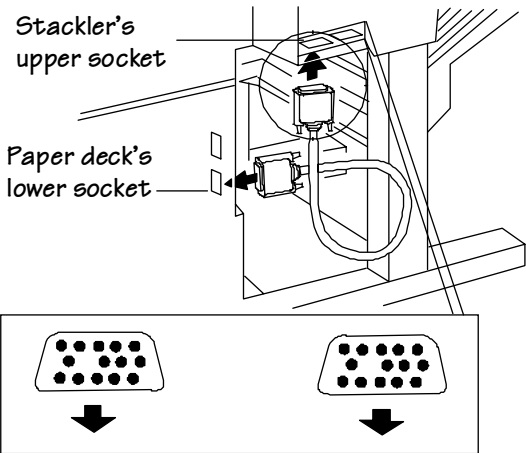
Before you can use the Stackler you need to connect the data cables and install the option controller board, if it is not already installed. The Stackler has two I/O sockets, one for input (IN) and one for output (OUT).

This socket...	Uses this type plug...	To connect the ...
Upper (IN)	15-pin	Printer
Lower (OUT)	14-pin	Additional Options

 **WARNING!** Turn off the printer and unplug the power cord before connecting any cables.

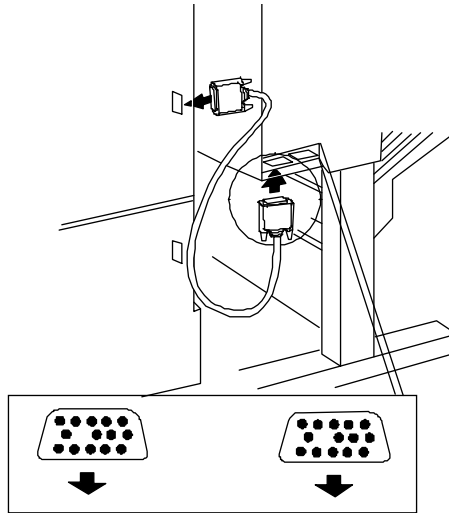
ACHTUNG! Schalten Sie bitte den Drucker aus und ziehen das Netzkabel heraus, bevor Sie andere Kabel an den Drucker anschliessen.

- 1 Connect one end of the data cable (supplied with the Stackler) into the upper socket on the Stackler and secure the plug by turning the two screws clockwise.



» **Note:** The I/O sockets are underneath the Stackler on the side opposite the output trays.

- 2 Connect the other end of the data cable into either the print engine option controller interface or, if installed, the output interface on the optional input paper deck.



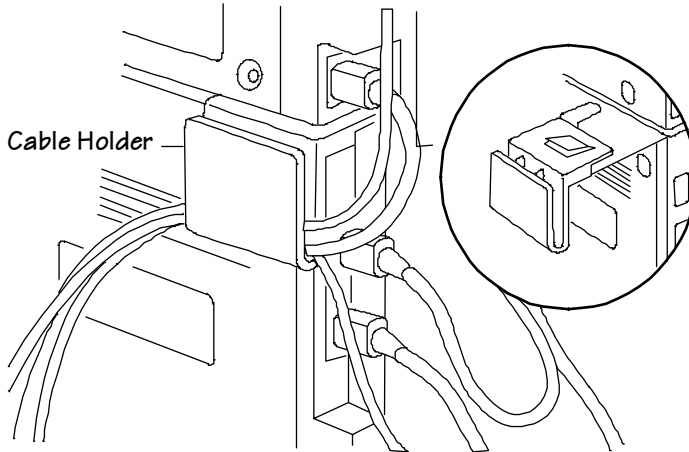
- 3 Tighten the thumb screw to ensure a good connection.

Connect the Power

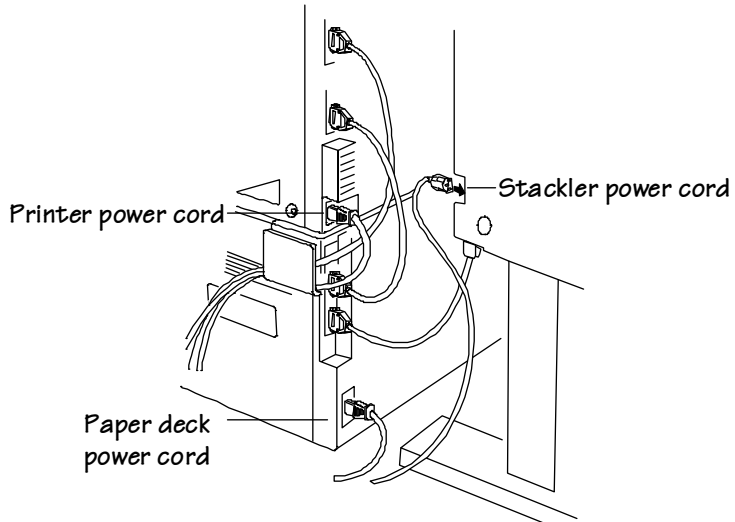
The Stackler is connected to the printer (on the side where the controller board and the power cord are located). To prevent the power cord from getting in the way of the Stackler, install a cable holder, and place the cord in the holder.

- 1 Slide the cable holder between the printer and either the optional input high-capacity paper deck or the pedestal stand.**

Push gently on the cable holder until it is flush with the edge of the paper deck or the pedestal stand.



- 2 Plug the printer's power cord into the power connector on the printer, and plug the Stackler's power cord into the power connector on the Stackler (at the left-rear side of the Stackler).



- » **Note:** Remember that only the printer's and the Stackler's power cords are connected when using the pedestal stand.
- 3 Insert the remaining cord into the cable holder, letting the plug ends hang free.
 - 4 Plug the power cords into the power outlets.
-
- ▲ **Caution:** Make sure that the printer is turned off. Do not confuse the Stackler's, input paper deck's, and printer's power cord. Use of the wrong cord could damage the Stackler.
-
- 5 Turn on the Stackler and high-capacity paper deck, if installed, and then turn on the printer.

Using the Stackler

The Stackler is now ready for use. We hope you enjoy the Stackler with its giant output capacity, and exciting document finishing features—including stacking, job offset, and stapling. See appendix B, “Technical Specifications,” in the *Reference* manual, for stack capacity information.

For optimum Stackler use, remember don't

- Rest objects on top of the Stackler trays.
- Touch the Stackler trays during operation.
- Put your hand all the way into the stapler compartment unless instructed to do so.

After installing the Stackler, you should print a test staple page to ensure that the staple cartridge is adequately advanced. To print a test staple page, select one of the Stackler output bins as the default output bin (Operator Control/Outputbin menu), and then print a status page by pressing the Status Page key on the printer control panel.

If the staples do require advancing, you will see a series of up to 12 staples placed along the side of the sheet. If the staples were advanced correctly, no staples will be placed on the sheet. If the staples were not advanced correctly, refer to the “Replacing the Staple Cartridge” section of this addendum.

Stackler Operation and Tray Capacities

Tray Chaining with the Stackler

The tray chaining feature of your QMS 2425/2425 *TURBO* printer normally works by detecting a paper out condition from the input cassette or high-capacity input paper deck. When this occurs, the printer automatically begins feeding from another input bin loaded with the same size paper.

When you are printing to the Stackler, however, the printer will chain from the upper or lower cassettes only to the high-capacity paper deck.

- » **Note:** *If the paper deck is not installed, the printer will chain only from the upper and lower cassettes.*

Stackler Tray Capacities

When stapled jobs or mixed jobs (stapled and non-stapled) are sent, the bins will become full at 90% full (27 stapled sets or 270 sheets). This is to prevent the output tray from jamming or detecting a false jam caused by the increased stacking height of stapled jobs. When the bin fills, the printer displays a message indicating that you should empty the output bins. The normal tray capacity is approximately 500-700 sheets for non-stapled letter/A4 print jobs.

At all times, the stacking capacity of your QMS 2425/2425 *TURBO* can vary depending on factors such as paper size and weight, paper humidity, and the type of paper used in printing.

Removal of Paper From Output Bins

The Stackler detects the stacking volume in order of upper, middle, and lower bin. The Stackler does not try to detect the next bin if the upper bin is still full; therefore, the Stackler cannot detect the removal of the paper if you remove paper from the middle bin and lower bin only after all bins became full.

- » **Note:** *QMS recommends that when the output bins are full, you remove paper from all bins instead of just an individual bin.*

Stapling Print Jobs

Stapling applies only to complete print jobs. You cannot staple within a job.

Replacing the Staple Cartridge

If the stapler runs out of staples while it is in use, the printer automatically stops. Use the following procedure to replace the staple cartridge.

▲ **Caution:** *Only replace the staple cartridge when the stapler has run out of staples. Removing the staple cartridge before it has run out of staples can damage the stapler.*

» **Note:** *The Operator/Output Finishing/Staple option cannot be used when the Operator/Output Finishing/Outputbin/Face-up option is On.*

Procedure

- 1 Remove any sheets held in the staple tray area.
- 2 Open the stapler front cover.

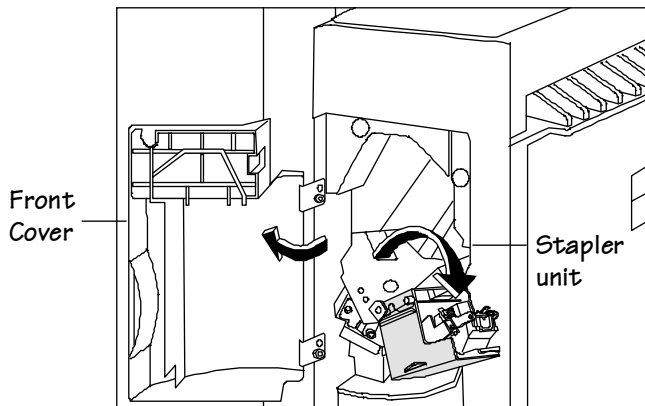
3 Note the position of the stapler unit.

If the stapler unit is not in the home position (position next to the door), then verify that there is no paper in the staple tray area and close the staple door. The finisher will advance the stapler unit to the home position. Once the finisher stops the advancing of the stapler unit, then open the staple door.

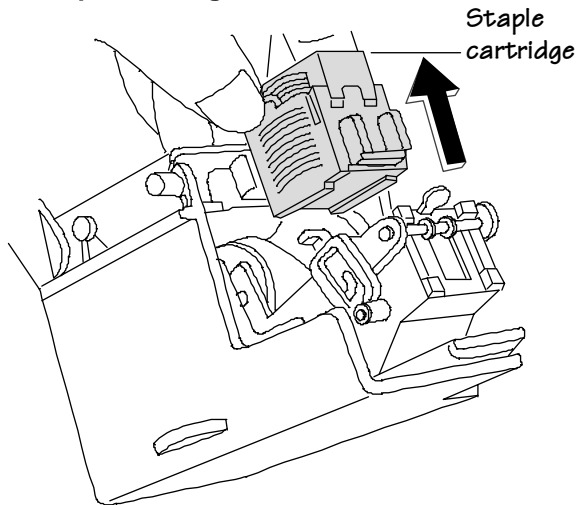


WARNING! *Never insert your fingers all the way into the open stapler compartment, unless instructed to do so.*

ACHTUNG! *Stecken Sie niemals Ihre Finger in die offene Klammervorrichtung, es sei denn, Sie werden dazu aufgefordert.*

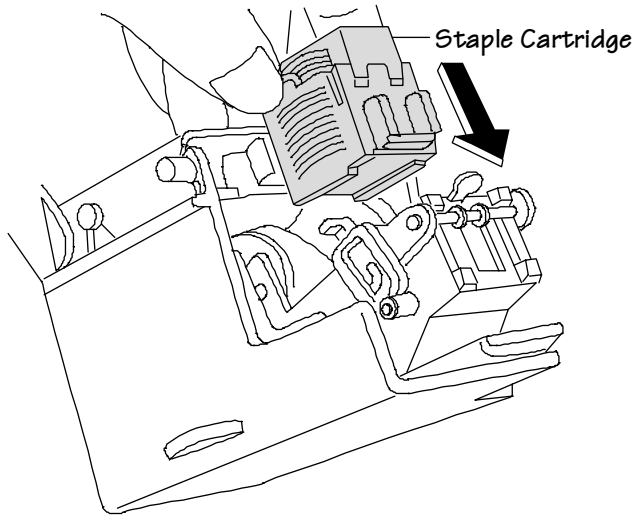


4 Remove the staple cartridge.

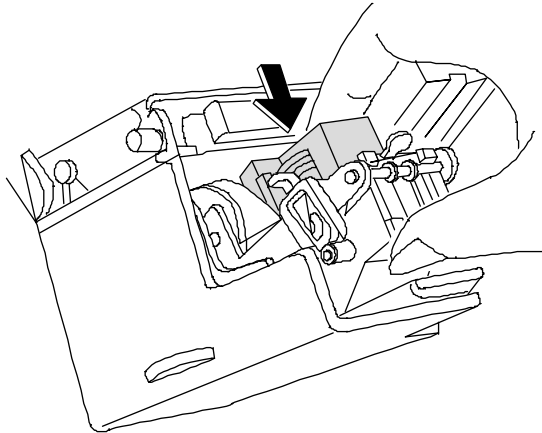


- » **Note:** *There may be a single sheet of staples (an aligned row of flat, connected staples) that is currently being fed to the staple head. If this sheet is removed, then a test staple page will be required or blank staple jobs will result until a sheet of staples from the new staple cartridge can be advanced. QMS recommends that you do not remove the sheet of staples that is currently being fed to the staple head unless that sheet of staples has been damaged.*

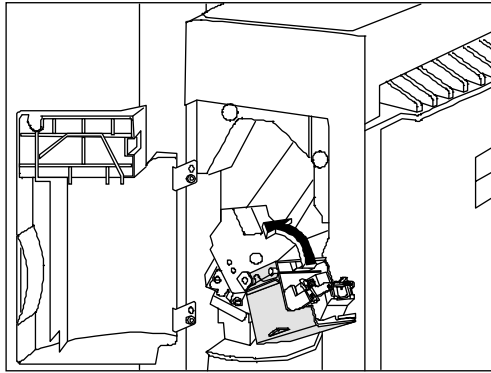
- 5 Load a new staple cartridge.**



- 6 Push the staple cartridge in until it is firmly seated.**

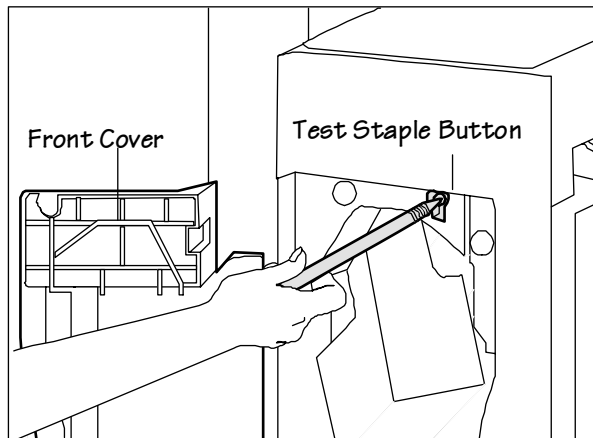


- 7 Pull the stapler unit back up to its original position.**



- 8 Using the tip of a pointed object, such as the tip of a push pin or pencil, press gently on the test staple button once to bring the staples to the ready position.**

» **Note:** *Be careful, too much pressure may damage the test staple button.*



- 9 Close the front cover.**

Printing and stapling will resume normally, unless the staples do not advance correctly.

10 Printing and stapling will resume normally, unless the staples do not advance correctly.

If the staples are not advanced, any print job that was being stapled when the staple out condition occurred may not be stapled correctly. Take one of the following actions:

- Continue printing the job. (You may want to do this if you're printing a large job.)

» **Note:** *If the staples are not advanced to the correct position, the printer will advance the stapler once for each staple job received; so several copies of your stapled sets may not be stapled correctly. If the print engine detects that a test staple is needed, the next calibration page, status page, or startup page printed will serve as the test staple job, and up to 10 test staples will be placed along one side of the page. If the staples are advanced to the correct position, the next staple job will be stapled correctly.*

- Print a test staple job to advance the staples to the proper staple position.

Press the Print Status key on the control panel, and select Yes. A standard or advanced status page prints. Up to 10 test staples will be placed along one side of the status page. The printer is now ready to resume normal operation.

QMS Model 3100 Stacker

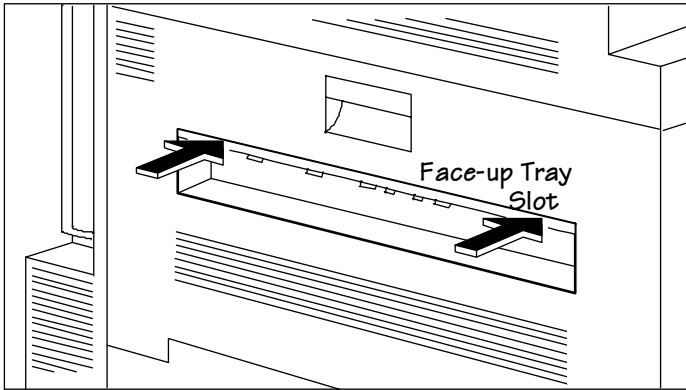
The QMS Model 3100 Stacker for your QMS 2425/2425 *TURBO* Print System gives you the ability to stack up to 3100 letter-size sheets face down. Attaching this stacker enables you to print large jobs without having to remove 500 sheets from the face-down output tray when it fills.

» **Note:** *There are two stackers available. One works with only 8.5"x11" paper, and the other works only with A4 paper. Make sure that your print job is set up to print **only** on 8.5"x11" paper or **only** on A4 paper. The stacker will jam if other paper sizes are selected.*

Attaching Your Stacker to the Printer

You must physically attach the Model 3100 Stacker to the face-up tray slot on the QMS 2425/2425 *TURBO*. No electrical connections are necessary and no maintenance is needed. Installation is as simple as pushing the stacker up to the printer, changing a menu selection, and printing.

- 1 Remove the face-up tray on the left side of the printer.**

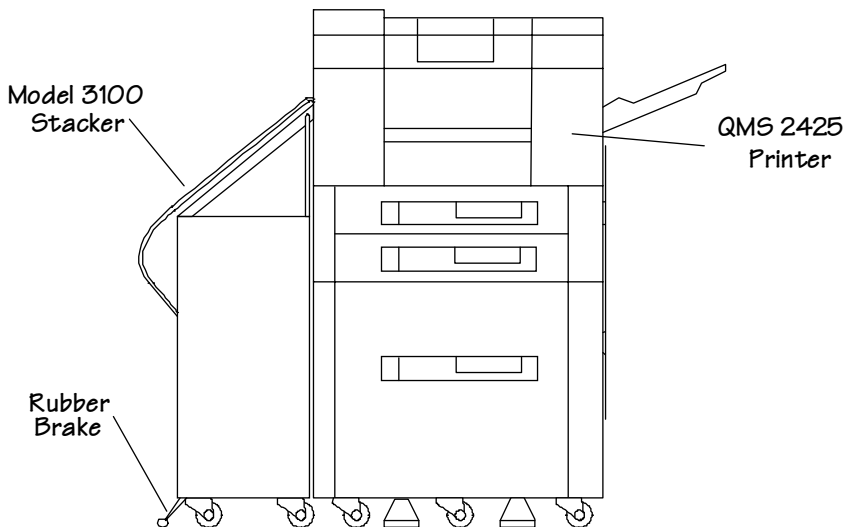


- 2 Unpack the QMS Model 3100 Stacker and check for the following:**
 - 4 casters
 - 1 wrench
 - alignment bar
 - 2 screws
 - flat piece of letter or A4 size plastic
- 3 Remove all the shipping tape.**
- 4 Screw the four casters into the bottom of the stacker and tighten them with the supplied wrench.**
- 5 If you are using a high-capacity input paper deck with your printer, remove the two screws on the face of the left side of the paper deck.**

- 6 Place the alignment bar over the holes in the side of the paper deck and fasten them with the two screws supplied with the stacker.
- 7 Roll the stacker up to the printer until it touches the printer.

▲ **Caution:** *Be sure to position the stacker between the alignment bar guides.*

- 8 Push the rubber brake against the floor to help stabilize the stacker against the printer.



- 9 In the printer's **Operator Control/Face-up Order** menu select **Reverse**.
See the next section for details on this menu option.
- 10 Select the **face-up tray** from the **Operator Control/Output Bin** menu.

- 11 Send a print job to the printer to test the operation of the stacker.**
- » **Note:** *Your QMS Model 3100 Stacker will accommodate 2750 sheets of 20 lb (75 g/m²) paper or 3100 sheets of 16 lb (60 g/m²) paper. If your paper stack shows excessive curl and is not lying flat in the tray, stacking problems may occur. If you see this, stop the printing job by taking the printer off line and turn over the paper in the cassette or paper deck. Begin printing again, and the paper stack should be flat.*

Face-Up Order Menu Option

A new option allowing you to print face-down in the QMS Model 3100 Stacker.

Menu	Operator Control/Face-up Order
Choices	Normal Reverse
Default	Normal
Notes	Choose Normal for printing to the face-up output tray. Choose Reverse for printing to the QMS Model 3100 Stacker.



9

Maintenance Kit

In This Chapter . . .

- “Replacing the Fixing Assembly” on page 9-2
- “Replacing the Transfer Charging Roller and Gear Assembly” on page 9-6
- “Replacing the Feed and Retard Rollers” on page 9-9

Installing the Maintenance Kit

After about every 350,000 prints, the fixing assembly, the transfer charging roller and gear assembly, as well as the feed and retard rollers should be replaced.

What's in the Kit?

Your User Maintenance kit contains the following items:

- Fixing assembly (1)
- Transfer charging roller and gear assembly (1)
- Feed and retard rollers (4 for printer and 2 for paper deck)
- Gloves (1 pair)

If anything is missing, call your QMS vendor. See appendix A, "QMS Customer Support," for locations and telephone numbers.

Replacing the Fixing Assembly

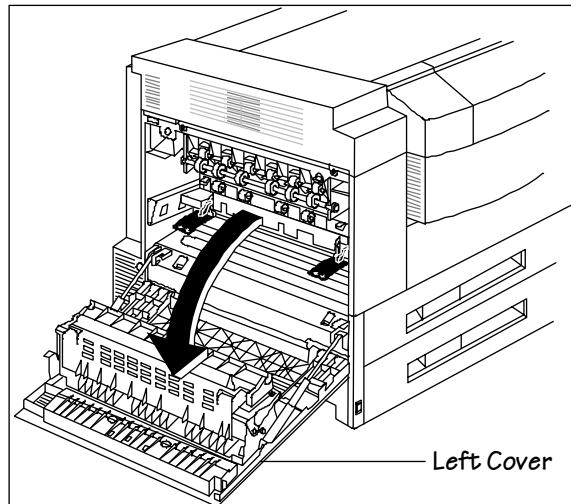


WARNING! *Be careful; the area around the fuser assembly is hot.*

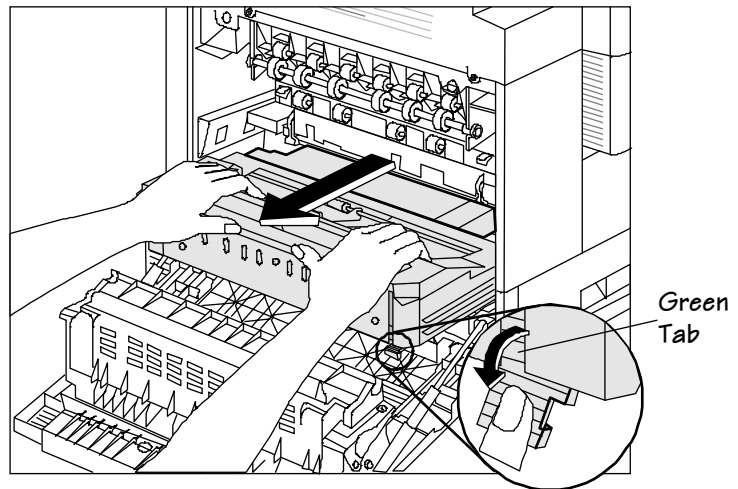
ACHTUNG! *Seien Sie vorsichtig; die Umgebung der Fixiereinheit ist heiß.*

Installing the Maintenance Kit

- 1 Open the left cover.

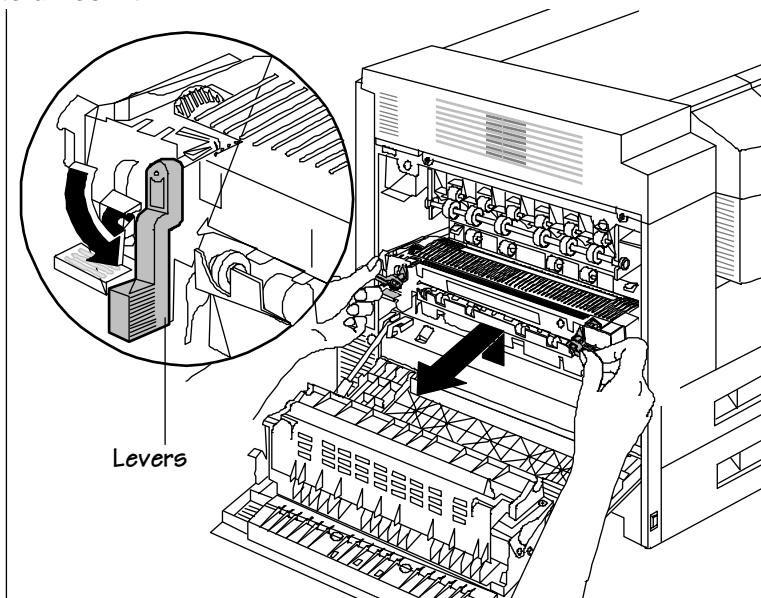


- 2 If the duplexer is installed, press down on its green tab, and pull the duplexer out using both hands.



Installing the Maintenance Kit

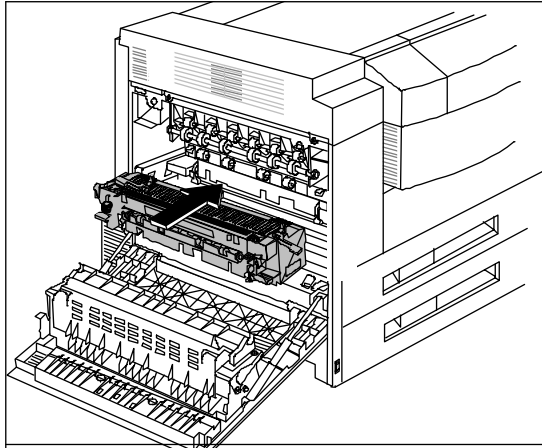
- 3 Push down on the levers on both ends of the fixing assembly to unlock it.



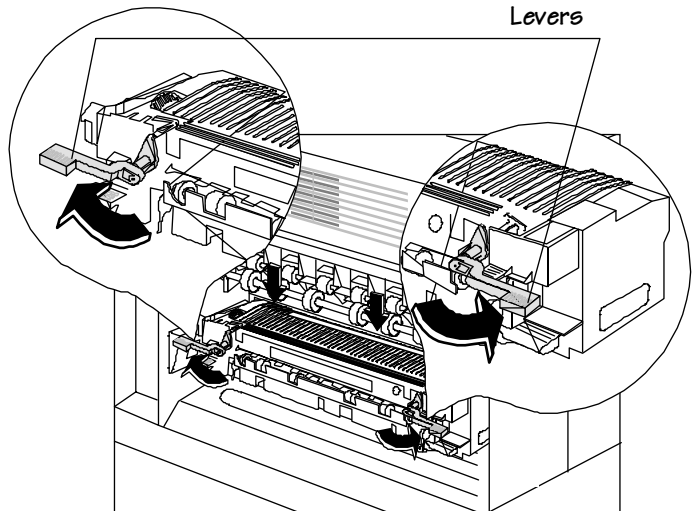
- 4 Lift out the fixing assembly with both hands.
- » **Note:** Avoid touching any other areas on the fixing assembly.

Installing the Maintenance Kit

- 5 Seat the new fixing assembly on the fixing assembly guide rails.



- 6 Push the fixing assembly all the way into the printer.
- 7 Press down to secure the fixing assembly into place, and move the levers up to lock the fixing assembly.



8 If the duplexer was removed earlier, reinstall it.

See chapter 8, the “Installing the Duplexer Assembly” section, for installation instructions.

9 Close the left cover.

Replacing the Transfer Charging Roller and Gear Assembly

-
- ▲ **Caution:** *Always wear the gloves when replacing the transfer charging roller and gear assembly to prevent any finger oil or other contaminants clinging to the surface of the roller. These may reduce print quality.*
-

-
- ⚠ **WARNING!** *Turn off the printer, unplug the power cord, and disconnect any interface cables before replacing the transfer charging roller and gear assembly. Be careful because the fixing assembly and other internal parts become very hot.*
-

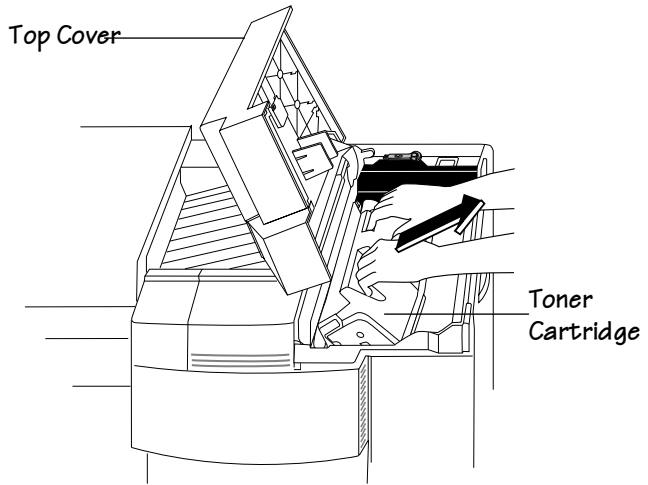
ACHTUNG! ACHTUNG! *Ziehen Sie den Netzstecker aus der Steckdose bevor Sie den Drucker reinigen.*

Keep the following in mind when replacing the transfer charging roller gear assembly:

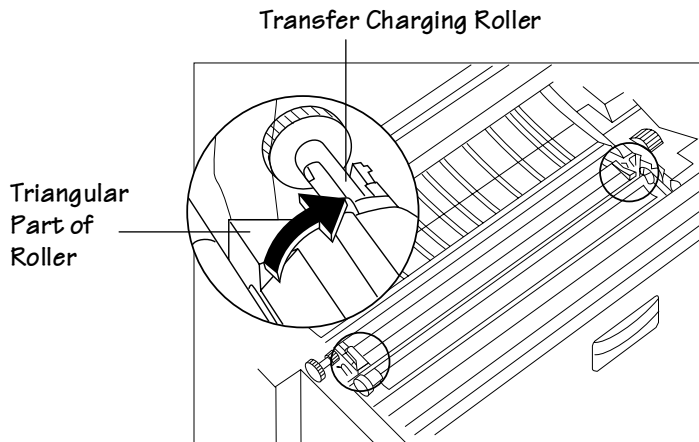
- Always wear the gloves provided to prevent any finger oil, scratches, or other contaminants, which may affect print quality, from clinging to the surface of the roller.
- Don't touch or clean the transfer charging roller and gear assembly when replacing it.
- Wash off any toner from your hands or clothing immediately with cold water.
- Don't remove the protective sheet on the transfer charging roller until the gear assembly is securely positioned.

Remove the Roller and Gear Assembly

- 1 Open the top cover and remove the toner cartridge.

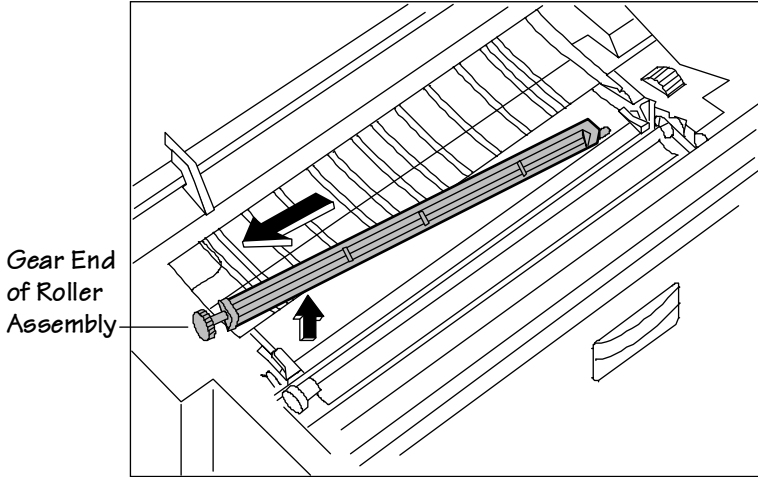


- 2 Push up on the triangular shaped parts of the roller.



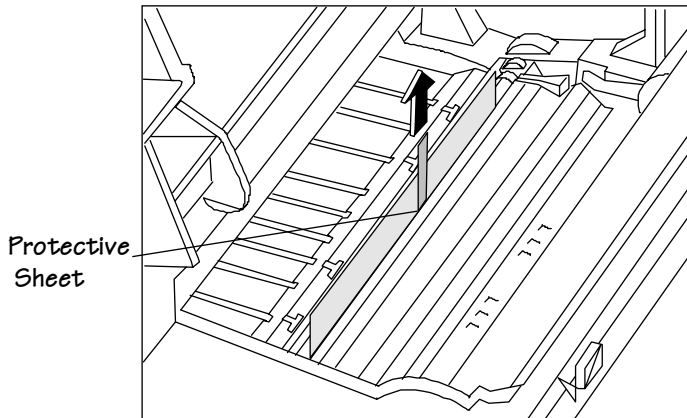
Installing the Maintenance Kit

- 3 Lift the gear end of the roller assembly to a vertical position, pull it away, and remove it.



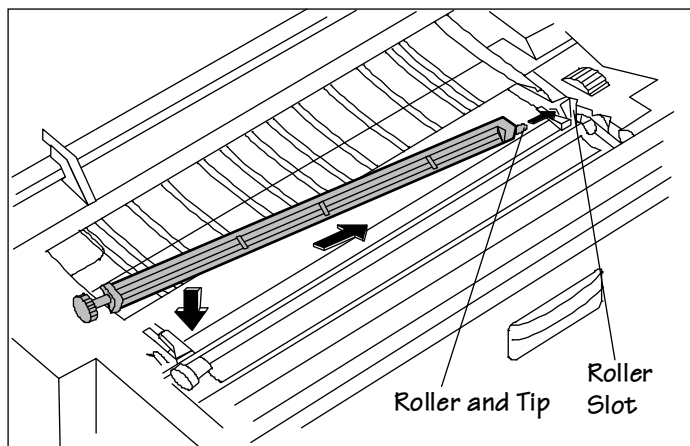
Install the Roller and Gear Assembly

- 1 Peel the filament tape from the transfer charging roller and remove the protective sheet by slowly and gently pulling it upwards.



» **Note:** To protect the surface of the roller, wear the gloves while peeling off the filament tape.

- 2 Insert the new transfer charging roller and gear assembly by placing its tip in the roller slot and pushing the roller down until it's correctly positioned in the printer.



- 3 Reinsert the toner cartridge.
- 4 Connect the power cord and turn the printer on.

Replacing the Feed and Retard Rollers

Keep the following in mind when replacing the feed and retard rollers:

- All feed and retard rollers (four for the printer and two for the optional paper deck) are identical in appearance and functionality.

Replace the Four Printer Feed and Retard Rollers

Use this procedure to replace the feed and retard rollers for both the upper and lower cassettes. Replace all four rollers at the same time, even if only some are worn out. Do not mix new and old rollers.

- » **Note:** *The feed and retard rollers are located in the same area of the cassette compartment for both the upper and lower cassettes.*

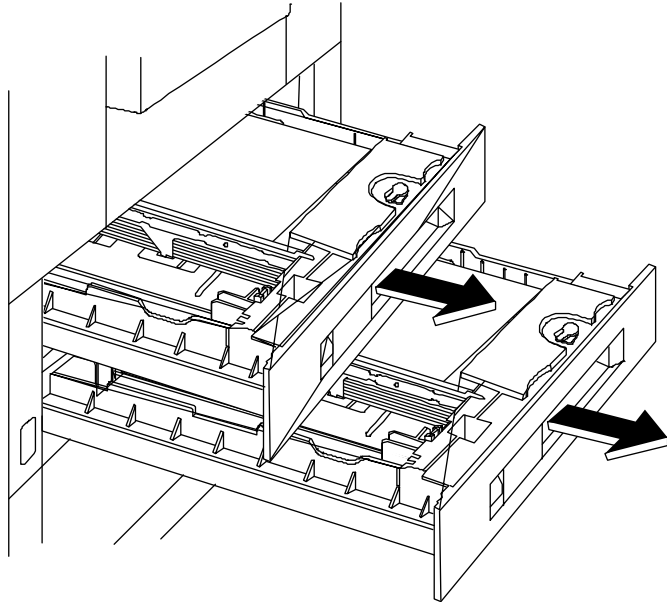
Installing the Maintenance Kit

WARNING! Turn off the printer, unplug the power cord, and disconnect any interface cables before replacing the feed and retard rollers.

ACHTUNG! Bevor die Zufuhr- und die Rückhalte-Rolle ersetzen, müssen Sie den Drucker ausschalten und das Netzkabel des Druckers sowie alle Interface-Kabel ausstecken.

- 1 Remove both universal media cassettes (upper and lower) from the printer. Pull each cassette all the way out until it stops and then slightly lift up the front to release the cassette from the drawer.

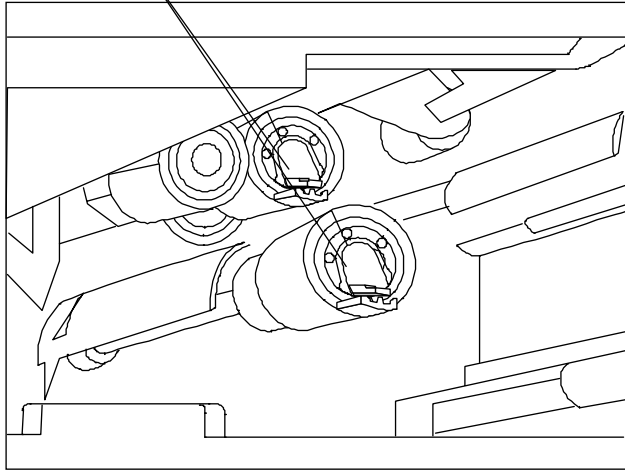
» **Note:** The universal cassettes operate like drawers and are not normally removed when loading or unloading media in the cassettes. However, they must be completely removed to replace the feed and retard rollers.



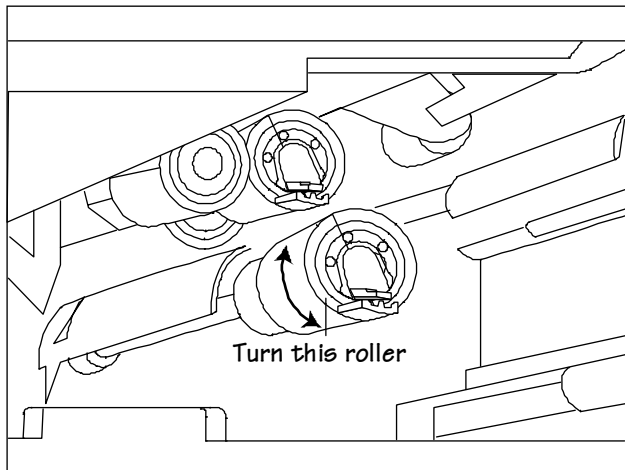
Installing the Maintenance Kit

- 2 Locate the two feed and retard rollers in the upper cassette compartment.

Upper Cassette Feed and Retard Rollers



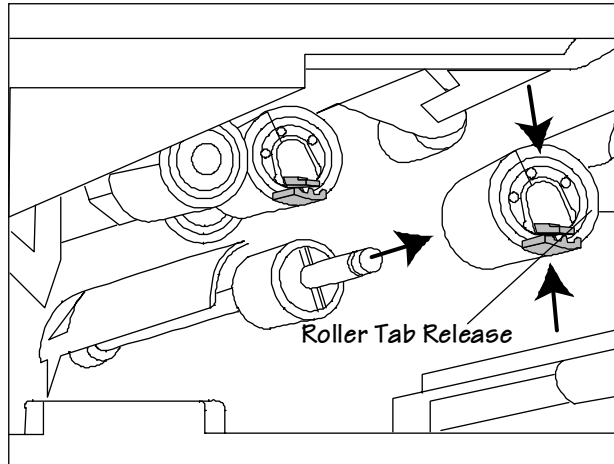
- 3 Turn the roller gently so you can reach the tab easily.



Installing the Maintenance Kit

4 Remove the lower roller first.

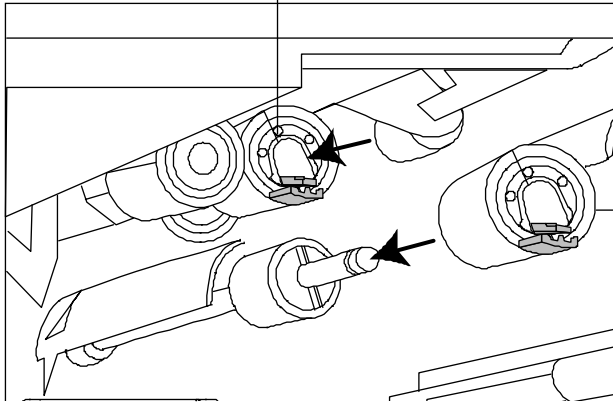
Pull the tab to release the roller, and then slide it out.



5 Repeat steps 2 through 4 to remove the lower cassette compartment feed and retard rollers.

- 6 Slide the new feed and retard rollers onto the upper silver metal rod first, and pull to check that it's secure.

Slide rollers on upper metal rod

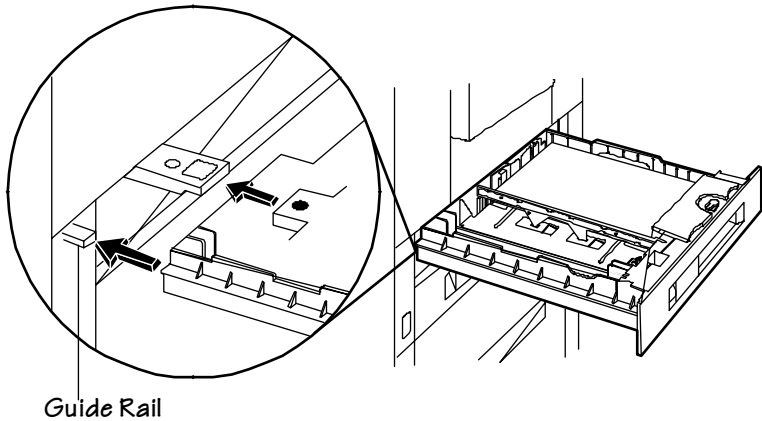


- » **Note:** When inserting the new roller, ensure the following:
- The roller is secure by pulling it once by the tab.
 - The roller is engaged with the gear by rotating it in each direction several times.
 - The tab is facing away from the rod.
- 7 Insert the new lower roller in the same way.
 - 8 Repeat steps 6 and 7 to replace the lower compartment rollers.


Installing the Maintenance Kit

- 9 Replace the two universal paper cassettes into their compartments. Position the cassette at a slight upward angle to align it with the guide rails.

» **Note:** It may take a few minutes to properly adjust the cassettes on their guide rails and slide them back in the printer.



Replace the Two Optional Paper Deck Feed and Retard Rollers

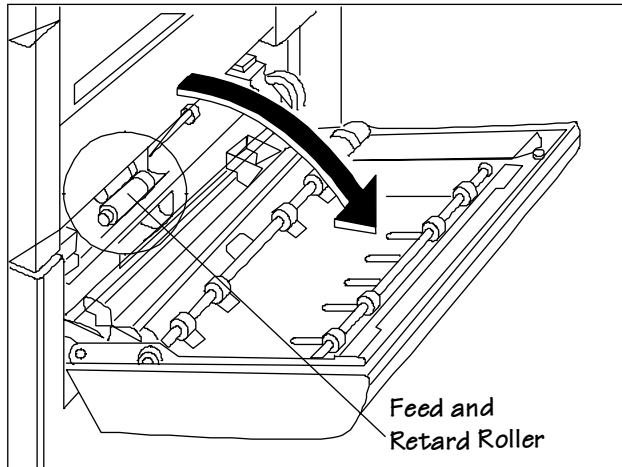
 **WARNING!** Turn off the printer, unplug the printer and optional paper deck power cords, and disconnect any interface cables before replacing the feed and retard rollers.

ACHTUNG! Bevor Sie die Zufuhr- und die Rückhalte-Rolle ersetzen, müssen Sie den Drucker ausschalten und das Netzkabel des Druckers, der zusätzlichen Papierzufuhreinheit sowie alle interface-Kabel ausstecken.

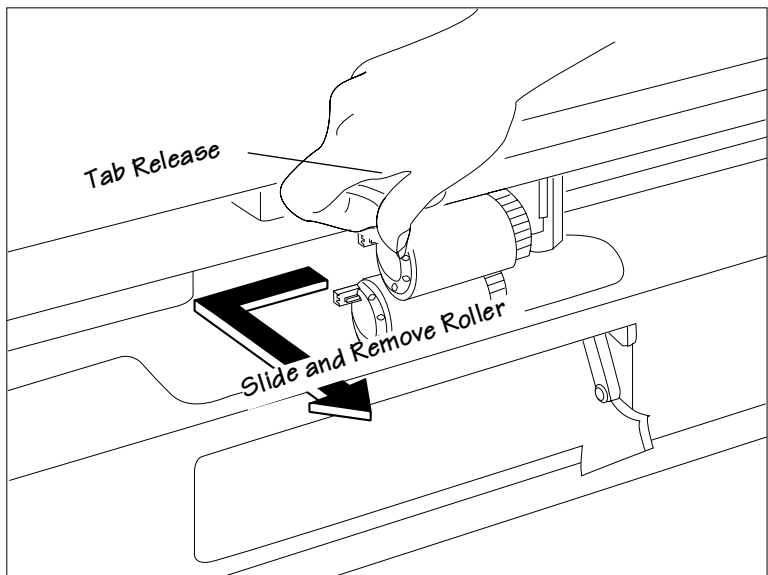
Use this procedure to replace the optional paper deck feed and retard rollers. Replace both rollers at the same time, even if only one is worn out. Do not mix new and old rollers.

Installing the Maintenance Kit

- 1 Open the paper pick-up cover.

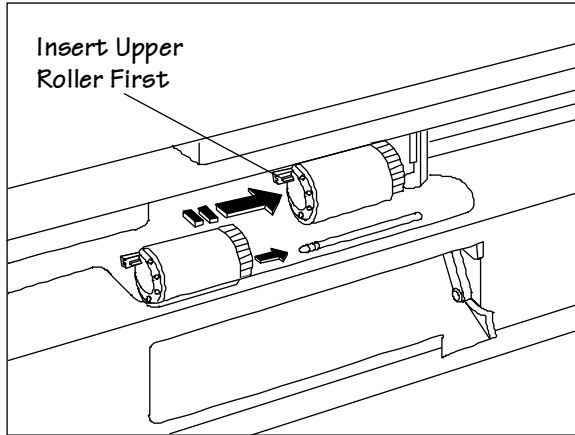


- 2 With your left hand, pull on the tab to release the upper roller, then use your finger to slide and remove it.



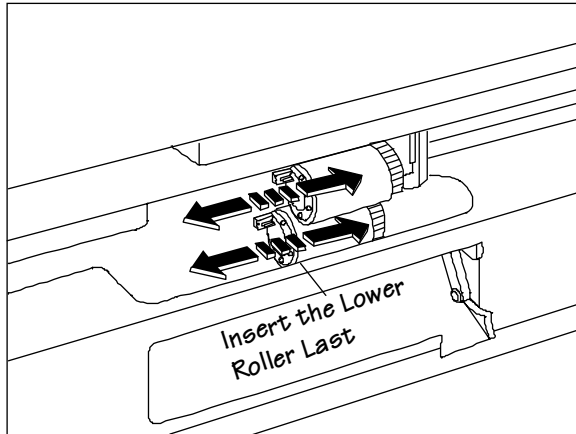
Installing the Maintenance Kit

- 3 Remove the lower roller as in described in step 2.
- 4 Insert the new upper roller first.



- » **Note:** When inserting the new roller ensure the following:
- The roller is secure by pulling it once by the tab.
 - The roller is engaged with the gear by rotating it in each direction several times.
 - The tab is facing away from the rod.

- 5 Insert the new lower roller.



- 6 Close the paper pick-up cover.
- 7 Plug in the printer and optional paper deck power cords, connect the interface cables, and turn on the power.



A

QMS Customer Support

In This Appendix . . .

- Sources of customer support on page 2
- QMS world-wide offices on page 5

Sources of Support

Several sources of help and information are available, depending on the type of help you need:

Your QMS Vendor

Your local vendor (the one from whom you bought the printer) may be best equipped to help you. Your vendor has specially trained service technicians available to answer questions, and the equipment to analyze your printer problems.

Your Application Vendor

Often, "printing" problems have more to do with the application being used than with the printer. In this case, the application manufacturer is the best source of help.

Q-FAX

Q-FAX, a QMS information retrieval service, provides application notes, technical support notes on common printing problems, and information about printer specifications, options, accessories, consumables, and prices.

In the United States and Canada, call (800) 633-7213 to reach Q-FAX. In all other countries, call (334) 633-3850. Have your fax number handy when you call (or place the call from your fax machine's handset).

You can choose to have either a directory (a list of currently available documents) or a specific document sent to you. The first time you call, request the directory (press 2 on your phone or fax keypad when prompted). Then call back to request specific documents. You can order up to three documents per call.

- » **Note:** *FAQ numbers may be subject to change, so you may want to obtain a directory of Q-FAX documents before requesting a specific document.*

The QMS Corporate Bulletin Board System

The QMS Corporate Bulletin Board System (BBS) contains technical support notes, application notes, drivers, patches, and utilities, and you may leave technical questions not requiring an immediate response on electronic mail for the Sysop (System Operator).

The bulletin board [(334) 633-3632] operates at 1200, 2400, 9600, and 14400 baud, 8 data bits, no parity, 1 stop bit, with XMODEM, YMODEM, and ZMODEM capabilities. Contact the QMS Customer Response Center (CRC) for more information about the bulletin board.

CompuServe

Through CompuServe, you ask general (non-technical) questions, share information with other users, and access printing information and programs. When you use CompuServe, type `go qmsprint` to go directly to the forum where QMS is located. The QMS library section contains application notes, printer drivers, utilities, technical information, and announcement files.

Internet

The QMS server provides access to technical reports, new product announcements, a trade show schedule, and other general information about QMS.

If you have access to the World Wide Web, you can view the QMS home page at <http://www.qms.com/>. The QMS ftp resource is <ftp.qms.com>.

QMS Customer Response Center (CRC)

You can contact the QMS Customer Response Center (CRC) in three different ways:

- **Telephone**—You can call the CRC at (334) 633-4500 (US) Monday–Friday, 7:00 am–6:00 pm, Central Time.
- » **Note:** *If you call for assistance, have the following information ready so our technicians can help you more quickly:*
 - ☑ Your phone number, fax number, and shipping address
 - ☑ A description of the problem
 - ☑ The printer model
 - ☑ The type of host computer you're using
 - ☑ The type and version of operating system you're using
 - ☑ The interface you're using, and, if serial, the protocol (for example, XON/XOFF)
 - ☑ The application and version you're using
 - ☑ The emulation you're using
 - ☑ Your printer firmware version (listed on the status/start-up pages)
- **Fax**—You can fax questions to the CRC at (334) 633-3716 (US). Provide the same information as listed above, and indicate whether you would like a faxed or a phoned reply.
- **Internet**—If you have access to the World Wide Web, you can access the CRC through the QMS home page at <http://www.qms.com/>

QMS World-wide Offices

QMS United States and Latin America

General Contact

1 (334) 633-4300
Fax 1 (334) 633-4866
Email info@qms.com
Internet <http://www.qms.com>

Customer Response Center (CRC)

Technical Assistance
1 (334) 633-4500 7:00 am–6:00 pm Central Time
Fax 1 (334) 633-3716
Internet <http://www.qms.com>
Bulletin Board Service
1 (334) 633-3632

Latin America Fax

1 (334) 639-3347

National Service

Service Information, Installation, and Maintenance Pricing
1 (800) 762-8894
On-Site Service and Depot Repair Information
1 (800) 858-1597 7:00 am–7:00 pm Central Time
Spare Parts Ordering and Information
1 (334) 633-4300 x2530 8:00 am–5:00 pm Central Time

QMS Canada

General Contact

1 (514) 333-5940
Fax 1 (514) 333-5949
Supplies and Accessories 1 (800) 268-0343 x223

National Service

On-Site Service and Depot Repair Information
1 (800) 268-4969 8:30 am–7:00 pm Eastern Time
Spare Parts Ordering and Information
1 (905) 206-9234 x238 8:30 am–5:00 pm Eastern Time

Bulletin Board Service

1 (905) 206-0084

QMS in Japan

QMS World- wide Offices

General Contact

(+81)- 3 3779-9600

Fax (+81)-3 3779-9650

Internet <http://www.qmsj.co.jp>

QMS in Latin America

General Contact

Cra 43 DD#8-42

Oficina 201

Medellin, Colombia

(+57) (4) 312 13 70

Fax (+57) (4) 268 92 97

QMS Europe

Australia

Anitech

Sydney Business & Tech. Centre

52/2 Railway Parade

2141 Lidcombe NSW

Australia

(+61) 2-9901 3235

Fax (+61) 2-9901 3273

Benelux

**Belgium, Nether-
lands, and all
unlisted countries**

Planetenbaan 60 'Corner Plaza'

3606 AK Maarssen

The Netherlands

(+31) 346-551333

Fax (+31) 346-550170

Internet <http://www.qms.nl>

France

Vélizy Plus

1 Bis, Rue du Petit Clamart

78142 Vélizy Cedex

France

(+33) 1-410 79 393

Fax (+33) 1-408 30 110

GMBH

**Germany and
Austria**

Willstätterstrasse 10

40549 Düsseldorf

Germany

(+49) 211-596 1333

Fax (+49) 211-596 1397

Italy	Via della Repubblica 56 43100 Parma Italy (+39) 52–1231 998 Fax (+39) 52–1232 902
Nordic Sweden, Finland, Norway, and Denmark	Arenavägen 41, 6th floor 121 77 Johanneshov Sweden (+46) 8–600 01 30 Fax (+46) 8–600 01 33
South Africa	Saskay House Unit 24 Sunninghill Business Park Peltier Road, Sunninghill, Johannesburg Republic of South Africa (+27) 11–807 6957 Fax (+27) 11–807 6960
Spain	Josefa Valcárcel 8 28027 Madrid Spain (+34) 1–742 5013 Fax (+34) 1–742 3152
UK United Kingdom and Ireland	Old Bridge House, The Hythe Staines, Middlesex TW18 3JF United Kingdom (+44) 1784–442255 Fax (+44) 1784–461641



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